THE
Young Gentleman's
CHRONOLOGY,

Containing ſuch
Chronological ELEMENTS,
as are moſt uſeful and eaſy to
be known.

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Rector of *Cotesbach* in *Leiceſter-ſhire*.

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THE PREFACE.

THE *Art of* Chronology *has ſo cloſe a Dependance upon* Aſtronomy, *that it is not unuſual for Writers of Aſtronomical Treatiſes to compriſe therein a great deal of what more properly belongs to* Chronology; *and which therefore I have here laid together, with the other moſt*

uſeful and eaſy Elements o
Chronology, *in a diſtinc*
Treatiſe from my Aſtrono-
my. *But the Deſign both*
of the One and the Othe
being the ſame, as therefor
I have given my Aſtrono
mical Treatiſe the Title
The Young Gentleman
Aſtronomy, *ſo I have gi*
ven this my Chronologic
Treatiſe the Title of Th
Young Gentleman's Chro
nology: *nothing being here*
in inſiſted on, but what r
lates to the common (Civ
or Eccleſiaſtical) *Computa*
tion of Time, and to t
two Celebrated Æra's *of t*
Olympiads, *and the* Buil

ding of Rome, *the former chiefly uſed by* Greek *Hiſtorians, the latter by* Roman.

THE

CONTENTS.

CHAP. I.

OF *a* Day; *and the Parts of Time ariſing from a Day by Diviſion*, viz. Hours *and* Minutes. Page 1

CHAP. II.

Of the ſeveral Parts of Time, which ariſe from a Day by Collection, viz. Weeks, Months, *and* Years. 9

CHAP.

CHAP. III.

Of the ſeveral Characters *of Time in general: and particularly of the* Cycle of the Moon, *and the* Epacts. 31

CHAP. IV.

Of the Cycle of the Sunday-Letter, *commonly called the* Cycle of the Sun. 43

CHAP. V.

Of the Indiction, *and* Julian Period. 54

CHAP. VI.

Of Epoch's *and* Æra's; *and eſpecially of the* Æra *or Year of* Chriſt, *the* Æra *of the* Olympiads,

piads, *and the* Æra *of the* Building of Rome. 60

C H A P. VII.

Of the Method to find Eaſter-Day *according to the* Nicene Rule, *(as ſtill followed by our Church) by Help of the* Golden Numbers *affixed to the Calendar. To which is adjoined the* Roman *Method of* Dating, *or denoting the Days of the Month.* 74

THE
Young Gentleman's
CHRONOLOGY, &c.

CHAP. I.

Of a Day; *and the Parts of Time ariſing from a Day by Diviſion,* viz. Hours *and* Minutes.

BY (*) *Chronology* is underſtood the Art or Skill of adjuſting Things paſt to their proper Times.

1. Chronology, *what.*

Hence Chronological Inſtitutions onſiſt of the Explication of the ſeve-

2. *Diſtinguiſh'd into* two Parts.

(*) The Word *Chronology* denotes literally in the eek Language a *Diſcourſe* or *Account of Time*, being mpounded of χρόνος *Time*, and λόγος a *Diſcourſe* *Account.*

ral *Parts*, into which Time in general is divided; and of the ſeveral *Characters*, by which particular Times are diſtinguiſhed one from another.

3. *All other Parts of Time ariſe from a Day, either by* Diviſion, *or* Collection.

The ſeveral Parts of Time are, *Minutes*, *Hours*, *Days*, *Weeks*, *Months*, and *Years*. Amongſt which we ſhall ſpeak firſt of a Day, becauſe from it ariſe the other Parts of Time, conſidered as they are applied to common Uſe. For as Hours and Minutes ariſe from a Day by Diviſion and Subdiviſion; ſo Weeks, Months, and Years ariſe from a Day by Collection, or reckoning ſuch or ſuch a Number of Days together.

4. *A* Day, *what, primarily and properly.*

By a *Day* then, according to the primary (†) Intention of the Name, is denoted the Time of Light; and in this Senſe it is oppoſed to Night, or the Time of Darkneſs. And the Sun being made *to* (‖) *rule the Day*, hence a Day, according to the primary Intention of the Name, ſeems moſt properly and naturally to be determined

by

(†) *God called the Light Day; and the Darkneſs h* *called Night*, Gen. 1. 5.

(‖) *God made two great Lights; the greater Light t* *rule the Day*, Gen. 1. 16.

by the Sun's Riſing and Setting; and ſo to be moſt properly and naturally defined, the Stay of the Sun above the Horizon, or the Time between the Sun's Riſing and Setting. Agreeably whereunto, Night is the Stay of the Sun below the Horizon, or the Time between the Sun's Setting and Riſing.

5. *Another Acceptation of a Day for a* Nuchthemeron, *or* 24 *Hours.*

But the Word *Day* is frequently taken in a larger Senſe, ſo as to comprehend alſo the Night, and to denote a whole Revolution of the Sun round the Earth. This Sort of Day is moſt aptly denoted by the *Greek* Word (*) *Nuchthemeron.*

6. *Different ways of computing the* Nuchthemeron.

The *Nuchthemeron* may be reckoned, either from Sun-ſetting to Sun-ſetting, as did the *Jews* and *Athenians*, and as the *Italians* ſtill do; or from Sun-riſing to Sun-riſing, as did the *Babylonians*; or from Mid-day to Mid-day, as do the Generality of

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(*) It is a Compound of *νὺξ a Night*, and *ἡμέρα a Day.* The two-fold Acceptation of the Word *Day*, is diſtinguiſhed uſually by the Names of a *Natural* and an *Artificial* Day. But ſome calling that a natural Day, which others call an Artificial, hence ariſes great Confuſion; to avoid which I judge it beſt, wholly to omit this Diſtinction.

Aſtronomers, and likewiſe the *Arabs*; or laſtly, from Mid-night to Mid-night, as did the old *Eygptians*, and *We* of this Iſland, together with the *French*, *Germans*, and other *Europeans* ſtill do.

7. *Of an* Hour. Proceed we now to the Part of Time, called an *Hour*. And hereby is principally denoted the 24th Part of a *Nuchthemeron*. Now a *Nuchthemeron* being the Space of an entire Revolution of the Sun about the Earth, during which the Equator makes alſo an (†) entire Revolution, hence it

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(†) In ſtrictneſs the Equator makes ſomewhat more than one Revolution, during a *Nuchthemeron*; viz. ſo much more as anſwers to the Sun's apparent proper Motion in the Ecliptick during the ſaid Space of Time. Now this Overplus being various, *viz.* 57 Minutes in the Sun's Apogee, and 61 Minutes in its Perigee, hence Aſtronomers take the Mean between the two fore-mentioned Numbers for a ſtanding Meaſure through the whole Year, and ſo compute that to every *Nuchthemeron* there anſwers 59′, 8″, and almoſt 20‴, over and above a Revolution (or the 360 Degrees) of the Equator. But now the Difference between the Sun's Revolution (or a *Nuchthemeron*) and the Equator's, when at greateſt, being but 61 Minutes or a little more than a Degree, which anſwers but to a little more than 4 Minutes in Time, hence it may be paſſed over unregarded in common Uſe; and the Hour here ſpoken of may be well enough eſteemed to anſwer juſt to 15 Degrees of the Equator.

comes to paſs, that as the whole Circle or all the 360 Degrees of the Equator anſwer to a whole *Nuchthemeron*, ſo a 24th Part or 15 Degrees of the Equator anſwer to a 24th Part of a *Nuchthemeron*, or ſuch an Hour. And becauſe theſe Hours are all thus uſually meaſured by 15 Degrees of the Equator, hence they are all looked on as *Equal* one to another at all Times.

8. *Of* Temporary *or* unequal *Hours.*

But the *Jews*, *Greeks*, and *Romans* did antiently divide (not the *Nuchthemeron* into 24 equal Hours, but) the Day, whether longer or ſhorter, into 12 Hours; and ſo likewiſe the Night. Whence it is obvious, that their Hours were *Unequal* one to another, except only at the two (‖) Equinoxes; when the Day and Night being Equal, their Hours would likewiſe be Equal, and ſo the ſame as to Extent with our Hours, though not as to Denomination.

(‖) Hence the equal Hours uſed by us are ſometimes ſtiled *Equinoctial* Hours; and the unequal Hours uſed by the *Jews*, &c. are ſtiled *Temporary* Hours, from their varying in Length according to the other various Parts of the Year.

9. *How the* unequal *Hours anſwer to our common* equal *Hours. Which Obſervation is of uſe for underſtanding the* Bible-Hiſtory.

For they always reckoning their firſt Hour of the Day from the Sun's Riſing, which at the Equinoxes anſwers exactly to our ſix a Clock in the Morning, it follows, that their firſt Hour of the Day muſt anſwer at the Equinoxes to our ſeven a Clock in the Morning; and conſeqnently their third Hour to our nine a Clock in the Morning; their ſixth to our twelve a Clock at Noon; their ninth to our three a Clock in the Afternoon, *&c.* And although there is not ſo exact a Correſpondence between the Hours uſed by them and us, at other Times of the Year, yet the fore-mentioned Obſervation is of good Uſe for the better Underſtanding the ſeveral Hours of the Day mentioned in the Sacred Hiſtory.

10. *As is alſo the* Jewiſh *Diviſion of the* Night *into* Watches, *&c.*

Upon the like Account it is not t be here omitted, that the *Jews* divided the Night (not only into twelv Hours, as is afore obſerved; but alſo) into four Quarters, called *Watches* each Watch containing three of thei Night-hours. Theſe Watches wer diſtinguiſhed, either by their numera Order, whence we expreſsly read i

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the Sacred Hiſtory of the (*) *Second*, *Third*, and (†) *Fourth* Watch; or by ſome other Denomination. Thus the firſt Watch is otherwiſe ſtiled the (‖) *Head or Beginning of the Watches*; the Second, the (*) *Middle* Watch, becauſe it laſted till Mid-night; and the Fourth, the (†) *Morning* Watch. Again, the Firſt was termed (‖) the *Evening*; the Second, *Mid-night*; the Third, the *Cock-crowing*; the Fourth, the *Dawning*.

II. *Of* Minutes, *and* Seconds; *and the* Difference *between* Horary *and* Graduary *Minutes.*

The common Diviſion of an Hour is into *Quarters*. But Aſtronomers, and ſuch as are more accurate in accounting Time, divide an Hour into ſixty Parts, called *Minutes*; and a Minute again into ſixty Parts, called *Seconds*, as being Minutes of Minutes, and ſo ſecondary Minutes. And here it is to be obſerved, that the Word *Minute* is taken in a double Senſe, either to denote the ſixtieth Part of an Hour, which therefore is peculiarly ſtiled an *Horary* Minute; or elſe to denote the ſixtieth Part of a Degree,

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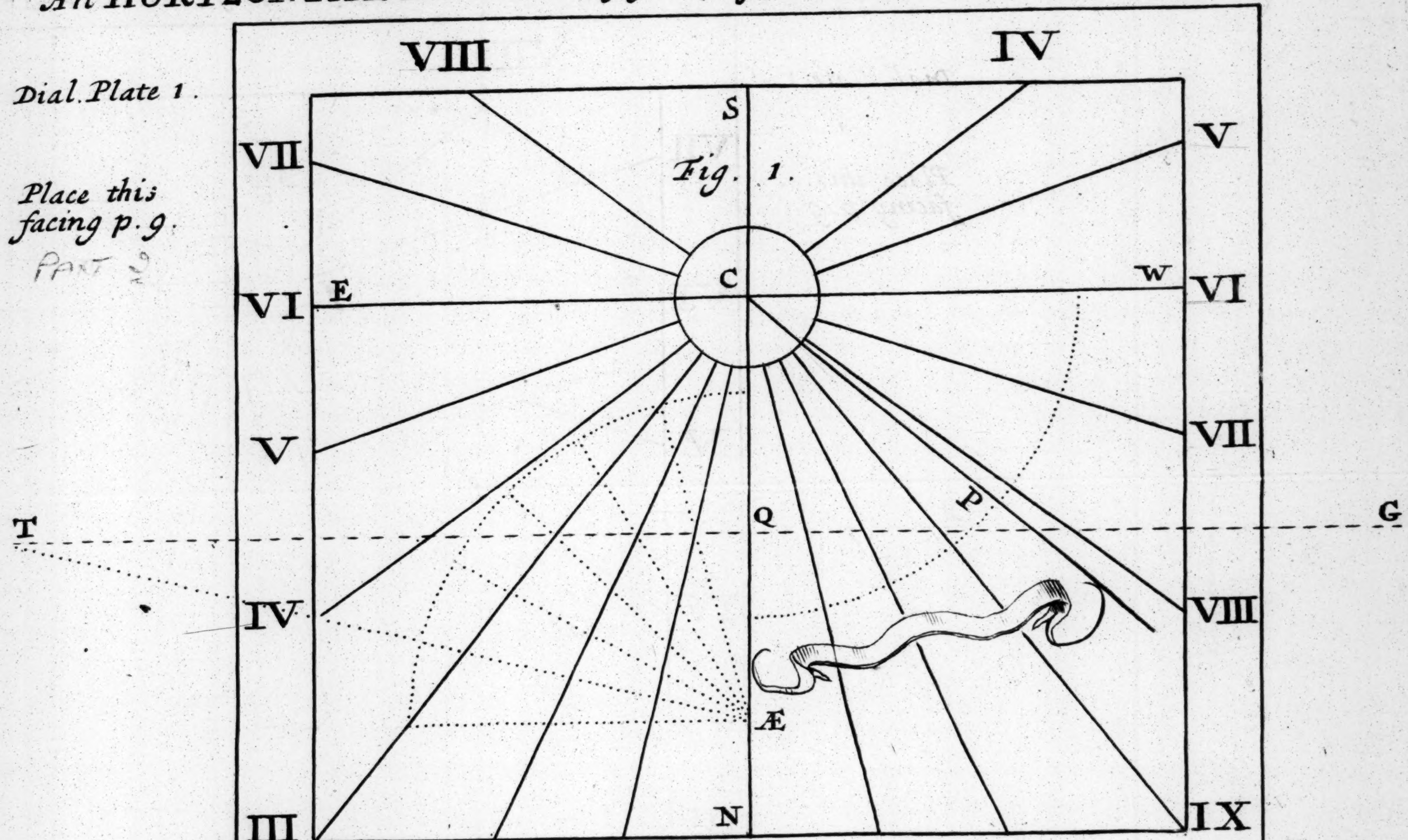
(*) *Luk.* 12. 38. (†) *Matt.* 14. 25. (‖) *Lam.* 2. 19. (*) *Judg.* 7. 19. (†) *Exod.* 14. 24. (‖) *Mark* 13. 35.

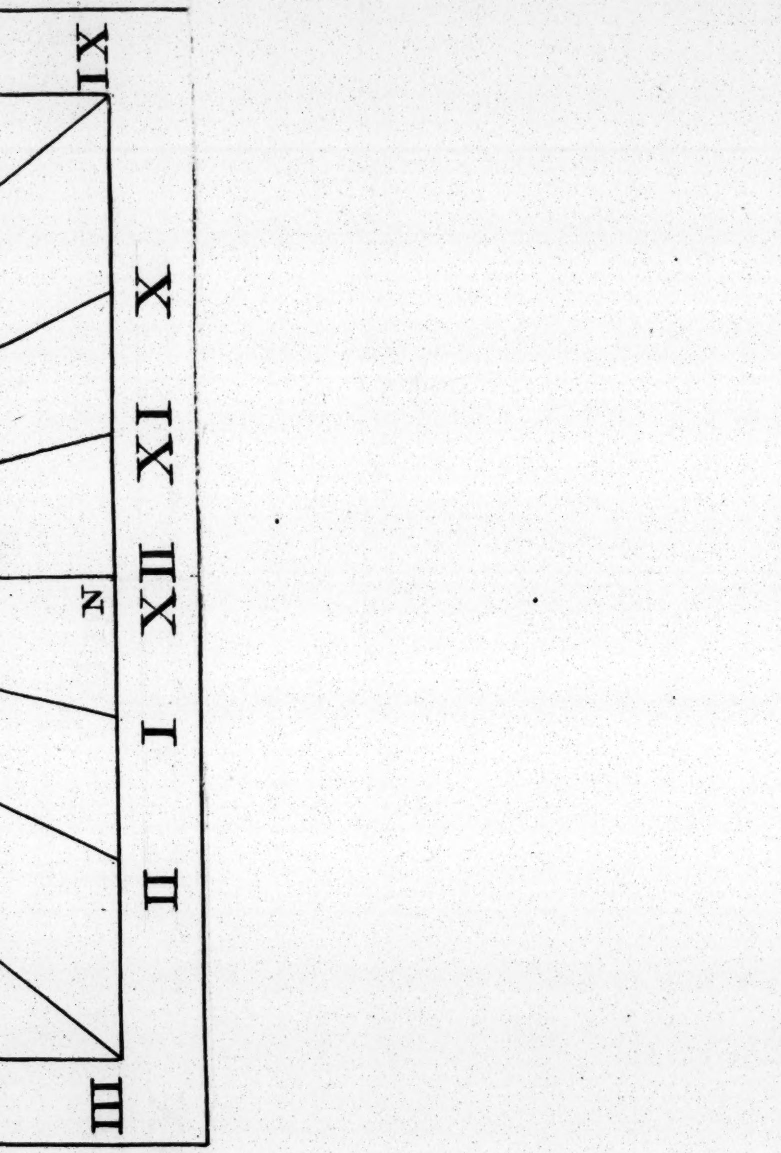
which therefore may be diſtinguiſhed by the Name of a *Graduary* Minute. And this *Graduary* Minute is ſubdivided by Aſtronomers into ſixty *Seconds*, and alſo each Second into ſixty *Thirds*, and each Third into ſixty *Fourths*, &c. whereas it is uſual to ſubdivide an *Horary* Minute only into Seconds. Now as 15 Degrees of the Equator anſwer to one Hour or ſixty *Horary* Minutes, ſo one Degree of the Equator or ſixty *Graduary* Minutes anſwer to four *Horary* Minutes; and ſo one *Horary* Minute to fifteen *Graduary* Minutes. And thus much for the ſeveral Parts of Time, which ariſe from a Day by Diviſion, and Subdiviſion.

An HORIZONTAL Dial drawn by yͤ help of yͤ EQUINOCTIAL Dial.

Dial. Plate 1.

Place this facing p. 9.
PART 2

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CHAP. II.

Of the ſeveral Parts of Time, which ariſe from a Day by Collection; viz. Weeks, Months, and Years.

1. *Of a* Week *properly ſo called.*

A Mong the ſeveral Parts of Time, which ariſe from a Day by Col- ection, it is proper to ſpeak firſt of he *Week*, not only as denoting the mallest Collection of Days, namely, o more than ſeven; but alſo as be- g the moſt Antient Collection, as e learn from the Sacred Hiſtory, hereby we are taught that it was in- ituted preſently after the Creation, d in Memory of God's creating the Vorld in ſix Days, *and reſting on the venth from all his Works, which he d made.*

2. *The ſeven Days of the Week whence take their* common Denominations.

The ſeven Days of the Week are mmonly diſtinguiſhed by the Name the Planets, accounted alſo juſt ven according to the Vulgar Syſtem, d placed in this Order from the gheſt to the Loweſt, *viz. Saturn, Jupiter,*

Jupiter, *Mars*, the *Sun*, *Venus*, *Mercury*, and the *Moon*. Now the Aſtrologers ſuppoſing the fore-mentioned Planets to preſide or rule over the ſeveral Hours of the *Nuchthemeron* according to their Order above-mentioned, hence denominate each Day of the Week from that Planet, which is ſuppoſed to preſide over the firſt Hour of the *Nuchthemeron*. Whence it comes to paſs, that the Days are denominated from the Planets according to the common Method. For aſſigning the firſt Hour of *Saturday* to *Saturn*, the ſecond will fall to *Jupiter*, the third to *Mars*, the fourth to the *Sun*, the fifth to *Venus*, the ſixth to *Mercury*, and the ſeventh to the *Moon*. And ſo the eighth Hour will fall to *Saturn* again, and alſo the fifteenth and twenty-ſecond of the ſaid *Nuchthemeron*; and conſequently, the twenty-third Hour will fall to *Jupiter*, the twenty-fourth to *Mars*. By which means the firſt Hour of the next *Nuchthemeron* will fall to the *Sun*, and the firſt Hour of the next to the *Moon*, of the next to *Mars*, of the next to *Mercury*, of the next to *Jupiter*, of the next to *Venus*; and of the next to *Sa*-

turn again, and ſo through the next Week as afore. Hence the Days of the Week came to be diſtinguiſhed in their Order by the *Latin* Names of *Dies Saturni*, *Solis*, *Lunæ*, *Martis*, *Mercurii*, *Jovis*, and *Veneris*; and ſo among us by the Names of *Saturday*, *Sunday*, *Monday*, *Tueſday*, *Wedneſday*, *Thurſday*, and *Friday*. For as *Saturday*, *Sunday*, and *Monday*, plainly denote the Day of *Saturn*, the *Sun*, and the *Moon*; ſo *Tueſday*, *Wedneſday*, *Thurſday*, and *Friday*, denote the Day of *Tuiſco*, *Woden*, *Thor*, and *Friga*; which are the *Saxon* Names reſpectively anſwering to *Mars*, *Mercury*, *Jupiter*, and *Venus*.

3. *The Days of the Week how denominated by the* Antient Chriſtians.

It is alſo not to be omitted, that, becauſe the *Eaſter* Week was formerly eſteemed the Firſt or Principal Week of the Year; and each Day thereof was a *Feria* or *Holy-Day*; hence the ſeveral Days of the Week were diſtinguiſhed in their reſpective Order, among the Primitive Chriſtians, by the Names of *feria Prima*, *Secunda*, &c. *i. e.* the *Firſt*, *Second* (&c.) *Holy-Day*: *Sunday*, or the *feria Prima* being otherwiſe ſtiled by them *the Lord's*

Day, as being the Day of our Lord's Reſurrection.

4. *A Week ſometimes taken to denote the Space of* ſeven Years.

Hitherto we have ſpoken of a Week in its common Acceptation, as it denotes *a Week of Days*, or *ſeven Days*. But it is not wholly to be paſt by, that as the Original or *Hebrew* Word which we render a Week, does literally denote only in general a *Collection of Seven*, and therefore may be applied to Years as well as Days, (and the ſame holds as to the correſpondent (*) *Greek* and *Latin* Words,) ſ it is actually uſed in (†) ſome Places of the Sacred Hiſtory to denote, not *ſeven Days*, but *ſeven Years*. And in Conformity to the Uſe of the ſaid Original Word, our *Engliſh* Word *Week* is uſed in the ſaid Places of Sacred Scripture to denote, not *a Week of Days*, but a *Week of Years*, or a Collection of ſeven Years.

4. *A Synodical Month, primarily called a* Month.

Proceed we next to ſpeak of *Months*, which, as they are of various Sorts, ſo are called by this one common Name, not by mere Chance, or without any Reaſon, but by Reaſon o

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(*) Hebdomas *and* Septimana. (†) *So* Dan. 9. 24—27

their

heir all agreeing in ſome Relation to Month primarily ſo called. Now he (||) *Hebrew* Word, to which our Word *Month* anſwers, does literally mport the Time from one *New* Moon to nother; and ſo does properly denote *Synodical Month.* And foraſmuch s this Sort of Month is moſt diſtinguiſhable by our Senſe, and ſo moſt obvious and proper to be uſed as a Meaſure of Time in the common Affairs of Life; hence it is more than probable, that, as our Word *Month* s evidently derived from the Word *Moon*, ſo it was primarily intended to denote likewiſe the Time from one New Moon to another, or a *Synodical Month.* For it is more than probable, hat this Word in our Language (and o of the correſpondent Words in all other Languages) was firſt uſed to denote that Sort of Month, which was firſt obſerved as a Meaſure of Time. But now it is not reaſonably to be

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(||) The *Hebrew* Word *Chodeſh* (is derived from a adix, which ſignifies to *Renew*, and accordingly) oes primarily denote the *New Moon*, or the *Day of e New Moon*; and thence it is ſecondarily taken to enote a *Month*, being the Space from one New Moon another.

doubted, but the Synodical Month was firſt uſed as a Meaſure of Time forasmuch as it is obvious to the bar Senſe, even of the Vulgar and moſ illiterate Perſons.

5. *The Periodical Month why called a* Month.

As for the *Periodical Month*, or th Time wherein the Moon goes roun her *Orbit*, this could not be determined without ſome Obſervation an Study; and therefore no doubt wa not taken Notice of, till ſometim after the Synodical Month was uſed And conſequently it is not to b doubted, but the name *Month* wa applied to the Time of the Moon' Periodical Courſe, not primarily, bu ſecondarily, or after it had for ſom Time been applied to the Moon's Synodical Courſe. And the Reaſon o impoſing the ſame Name upon th Time of that, as had been impoſe afore upon the Time of this, was, becauſe both Times agree in the genera *viz.* as they relate to the Courſe o the Moon, and ſo may both from th *Moon* be called *Months*.

6. *Of the different Lengths of the* Syno-

It has been afore (in the Aſtronomical Treatiſe, *Chap.* 4. *Sect.* 2, 3. obſerved, that the Periodical Mont conſiſts of 27 Days and 7 $\frac{3}{4}$ Hours

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and the Synodical Month of 29 Days and 12 $\frac{3}{4}$ Hours. And the Reaſon of this Difference has been there accounted for.

dical *and* Periodical *Month.*

7. *A* Solar *Month, what, and why called a* Month.

It is here to be further noted, that, becauſe during (either a Synodical or Periodical) Month of the Moon, the Sun paſſes well-nigh through a whole Sign of the Ecliptick; hence the Time of the Sun's paſſing quite through a Sign is called a *Solar* Month, as nearly anſwering to the Space of a *Lunar* Month, eſpecially the Synodical Month. For as this Sort of *Lunar* Month is a little above 29 $\frac{1}{2}$ Days, ſo the fore-mentioned *Solar* Month is almoſt 30 Days; and conſequently the Difference between them is but about one Day.

8. Civil *Months, what, and why called* Months.

But now becauſe the fore-mentioned *Solar* and *Lunar* Months do not conſiſt juſt of whole Days, but of ſome odd Hours and Minutes over, which cannot be conſidered in the common Account of Time; therefore ſome certain Number of juſt whole Days are made uſe of inſtead of the fore-mentioned Aſtronomical Months; but however are called likewiſe *Months*, foraſmuch as they come as near as can be to the ſaid *Aſtronomical* Months, from which they are diſtinguiſhed by the Name of *Civil* Months, as being adapted to Civil or Common Uſe.

9. *A* Month of Weeks, *what.*

Thus in the firſt Place, what is moſt commonly called a Month among us, is made to conſiſt juſt of twenty-eight whole Days, and ſo juſt of four whole Weeks; whence it is peculiarly ſtiled *the Month of Weeks*. It is obvious, that in Order to render the Computation of Time from Weeks to Months more eaſy, and ſo more fit for common Uſe, it was neceſſary that the Month ſhould conſiſt juſt of ſome certain Number of whole Weeks: which being thus neceſſary, four whole Weeks were made Choice for the Number, which ſhould conſtitute the Month; becauſe this Number comes nearer than any other Number of Weeks, to the ſeveral Aſtronomical Months afore-mentioned.

10. *The* Civil *Synodical Month, what.*

The Aſtronomical Synodical Month is adapted to Civil or Common Uſe, by making the Civil Synodical Month to conſiſt alternately of (*) twenty-nine

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(*) A Civil Synodical Month conſiſting of thirty Days, is called *Plenus*, i. e. a Full Month; and a Civil Synodical Month conſiſting but of twenty-nine Days, is called *Cavus*, i. e. an *Hollow* or *Defective* Month.

nine and thirty whole Days; for $29 + 30 = 59 = 29\frac{1}{2} \times 2$, that is, two Civil Synodical Months are equal to two Aſtronomical Synodical Months, omitting in both the odd Minutes. And conſequently, according to this Method, the New Moon will keep to the firſt Day of every ſuch Civil Month for a long Time together, when once adjuſted thereto. This was the Month in Civil or Common Uſe among the *Jews*, *Greeks*, and *Romans*, till the Time of *Julius Cæſar*, and is ſtill ſo among the *Turks*.

II. *The Solar Months might be* uniformly *adapted to Civil or Common Uſe.*

In like manner, the Aſtronomical Solar Month may be adapted to common Uſe, by making the Civil Solar Months to conſiſt alternately of thirty and thirty-one Days, excepting one Month of the twelve, which ſhould conſiſt of thirty Days every four Years; the other three Years it muſt conſiſt only of twenty-nine Days. This is illuſtrated by the adjoining Scheme or Table of the Solar Months.

Months.	Days.	Months.	Days.	Months.	Days.
March	31	*Quintilis*	31	*November*	31
April	30	*Sextilis*	30	*December*	30
May	31	*September*	31	*January*	31
June	30	*October*	30	*February*	29
				And every fourth Year,	30

For according to this regular and uniform Method, there will be 365 Days in the twelve Solar Months for three Years together, and every fourth Year 366 Days, juſt as it is now.

12. *The Solar Months how came to be inſtituted, as* in Uſe among us.

It is evident then, that the Civil Solar Months might be thus uniformly conſtituted. And indeed they were ſo conſtituted in the main at firſt b *Julius Cæſar*, who brought the Solar Months into common Uſe among the *Romans*, whereas they uſed afore the Civil Lunar Month, as was (†) obſerved when we were ſpeaking of the ſaid Lunar Month. The Alteration was made afterwards, when (as the fifth Month, which had afore been called from its Rank, *Quintilis*, wa new named *Julius* in Honour of the Emperor of that Name; ſo) the ſixth Month, which had afore been calle

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(†) Sect. 10*th of this Chapter*.

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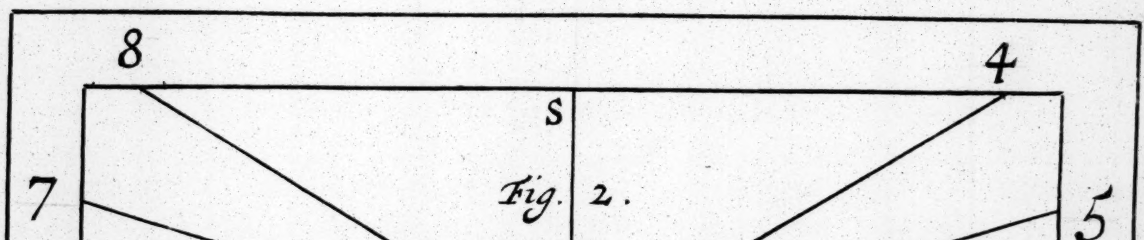
facing p. 18.

Pr. 2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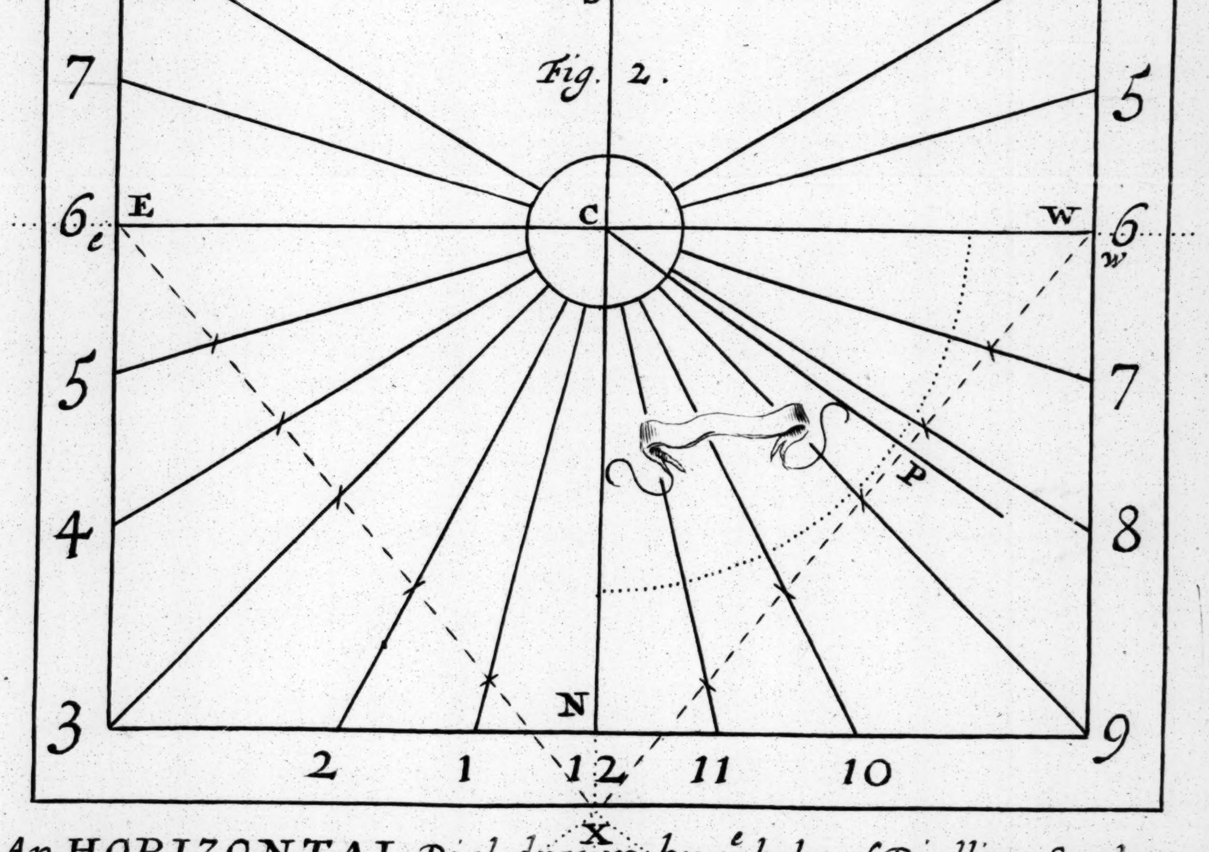

Fig. 2.

An HORIZONTAL Dial drawn by ye help of Dialling Scales.

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from its Rank, *Sextilis*, was new named *Auguſtus* in Memory likewiſe of the Emperor of the ſame Name; and not only ſo, but (whereas this Month conſiſted afore but of thirty Days, and ſo was a Day ſhorter than the foregoing Month of *July*,) there was a Day more added to it, that ſo the Honour paid to *Auguſtus* might not ſeem to fall ſhort of the Honour paid to *Julius*, even in this Punctilio. Now this Alteration being made as to the Month of *Auguſt*, it (according to the alternate Method at firſt inſtituted, and ſtill preſerved in the following Months) made an Alteration in all the following Months, except *January*, which upon this Alteration ſhould have had but thirty Days according to he alternate Method primarily inſtiuted. But this Month being ſo named n Honour of *Janus*, eſteemed by the *Romans*, the God of Time, on the ke Conſideration that it ſeemed proer to lengthen the Month of *Auguſt* y a Day, it might ſeem not proper o leſſen the Month of *January* by a ay; but rather to continue it ſtill irty-one Days long, and to make *ebruary*, which afore was twenty-

nine,

nine, and every fourth Year thirty Days long, to be commonly but twenty-eight, and every fourth Year but twenty-nine Days long. And ſo the Solar Months came to ſtand, as they do now in our *Calendar*, (whence they are called the *Calendar* Months) in reference to the Names and Number of Days aſſigned to each, ſet down in ſhort in the following Table.

Months.	Days.	Months.	Days.	Months.	Days.
March	31	*July*	31	*November*	30
April	30	*Auguſt*	31	*December*	31
May	31	*September*	30	*January*	31
June	30	*October*	31	*February*	28
				But every fourth Year,	29

By comparing this and the foregoing Table, will be illuſtrated whatever has been here ſaid, either concerning the firſt Inſtitution of the Solar Months among the *Romans* by *Julius Cæſar*; or concerning the Changes that have been ſince introduced. And alſo it will appear, that the whole Number of Days, contained in the twelve Solar Months taken together, hath been all along the ſame, *viz.* 365 Days, and every fourth Year 366 Days. The former of which Sums is

the

Dial. Plate 2.

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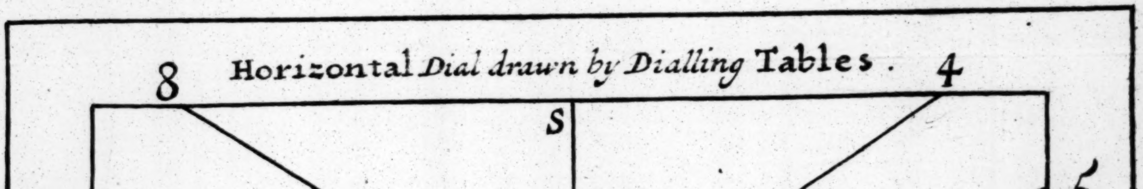


Horizontal *Dial drawn by Dialling* Tables.

pag. 20.

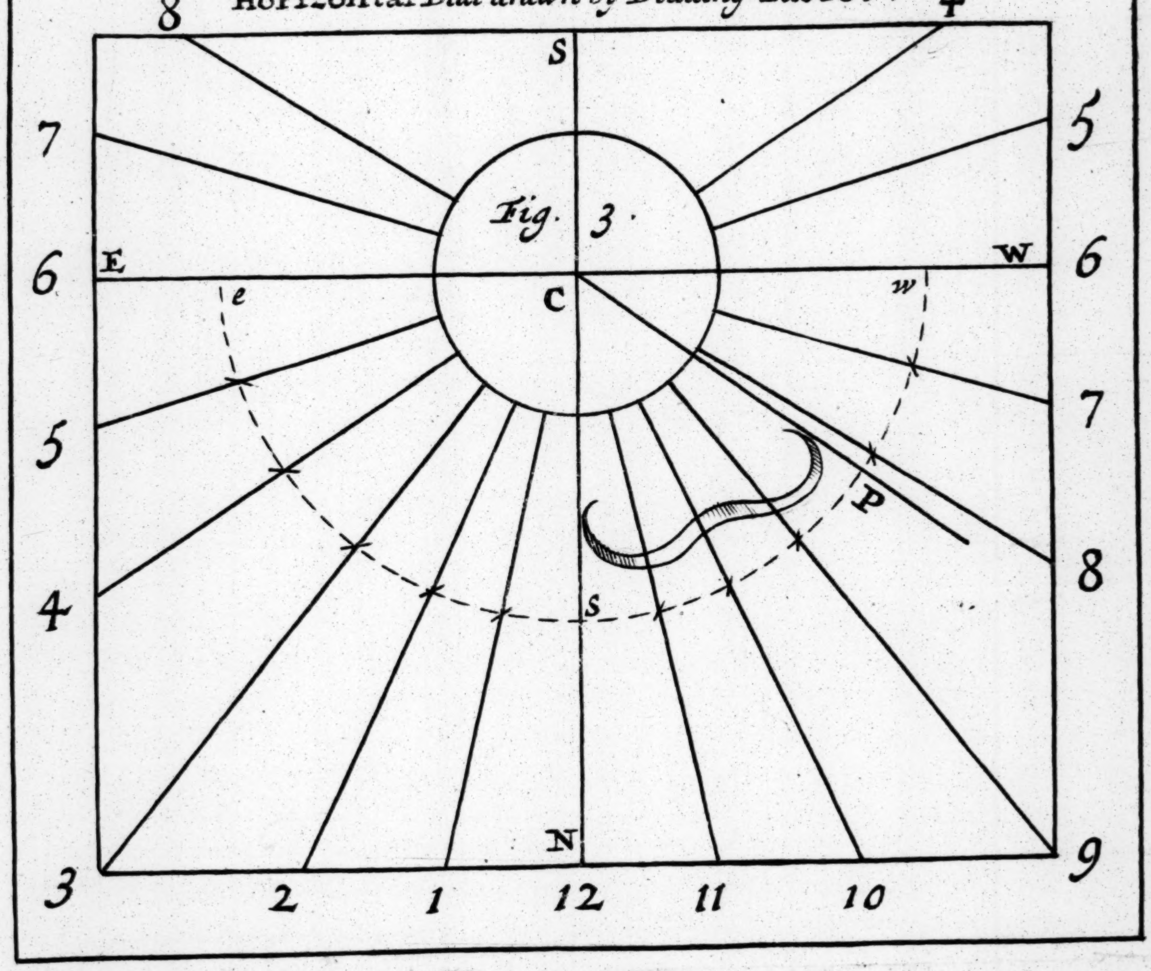
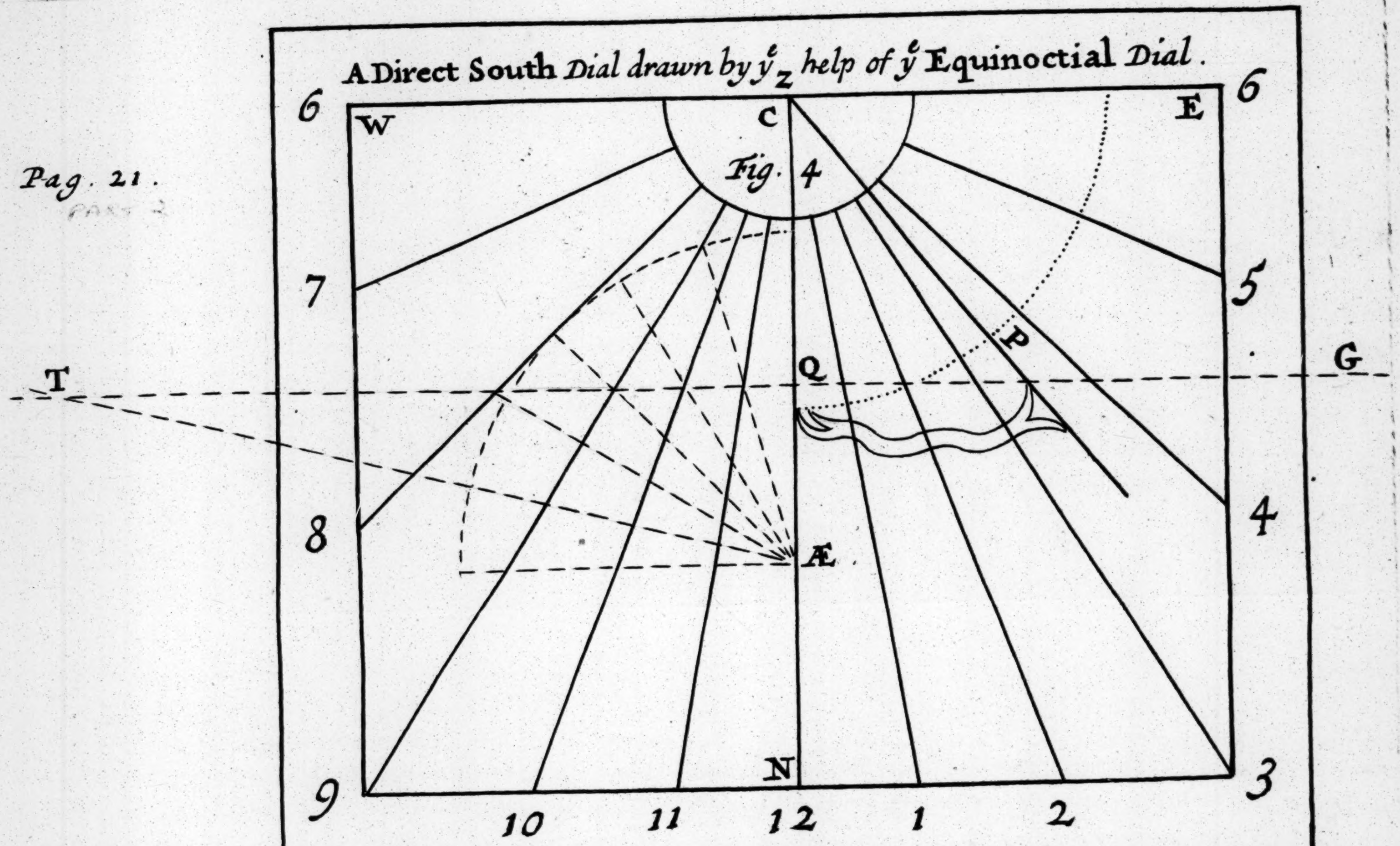
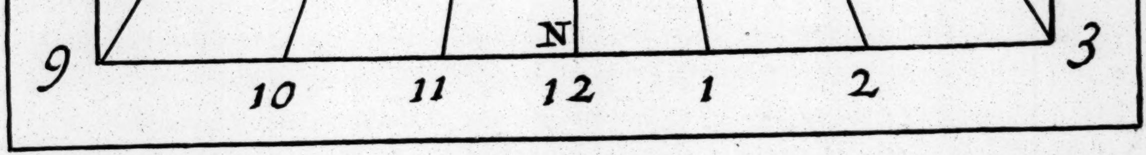


Fig. 3.

Pag. 21.
PART 2

A Direct South *Dial drawn by yᵉ* z *help of yᵉ* Equinoctial *Dial*.

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he Time, wherein the Sun ſeems to paſs through the twelve Signs, (†) omitting the odd Hours and Minutes; and the latter Sum is the Time, wherein the Sun ſeems to paſs through the twelve Signs, adding thereto the odd Hours and Minutes which were omitted the three foregoing Years, and ſo many Minutes more as make the ſaid odd Hours and Minutes equal to a whole Day in four Years.

13. *A* Twelve-Month *how Equivalent to a Year.*

Now as theſe twelve Solar or Calendar Months make up the Civil Solar Year in uſe among us, (in which Senſe it is, that a *Twelve-Month* is uſed by us as an Equivalent Term to a *Year*) ſo what has been ſaid concerning the Sums of 365 and 366 Days being contained in the twelve Calendar Months taken together, will be more particularly explained, when we come preſently to ſpeak of the Civil Year in uſe among us; after that we have made ſome ſhort Obſervations concerning the Year in general.

(‖) See *Sect.* 16. *of this Chapter.*

14. *A* Year, *what, in general. It is properly taken to denote a* Solar *Year.* By a (†) *Year* then (the only Part of Time remaining to be treated of) is denoted in general a Revolution o a Celeſtial Light round the Heavens by (what is eſteemed) its proper Motion. Thus an entire (apparent) Revolution of the fixed Stars is ſtiled the *Great Year*; and the Time wherei *Saturn*, *Jupiter*, and *Mars*, go round their *Orbits*, is reſpectively ſtiled the Year of *Saturn*, *Jupiter*, and *Mars*; and accordingly the Time of the Moons going round her *Orbit*, commonly called her Periodical Month, is ſometime ſtiled her Year. But by a Year is principally and properly denoted the Time, wherein the Sun appears to move round the Ecliptick, which is 365 Days, 5 Hours, and very near 49 ½ Minutes.

15. *A* Lunar *Year, what.* Now becauſe during the Time o one *Solar* Year, there are twelve Synodical Months; hence twelve Syno-

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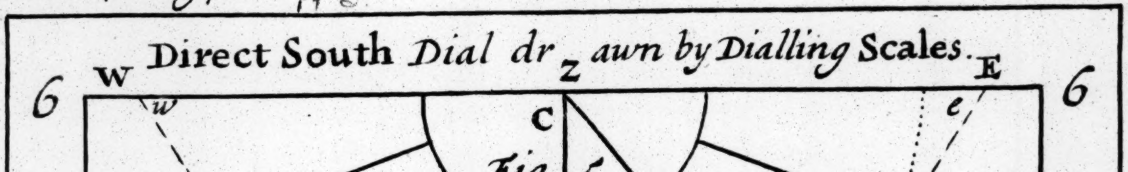
(†) As the *Latin* Word *Annus* primarily denotes Circle (whence *Annulus* ſignifies a Ring) and is thenc taken to denote a Year, as being a Circle of Tim which being once gone round is begun again; ſo th *Greek* Word ἐνιαυτὸς, and the *Hebrew* Word *Shan* is of the like Importance.

dica

Place this facing p.22. p12 *Dial. Plate 3.*



Direct South *Dial drawn by Dialling* Scales.

Direct South Dial drawn by Dialling Scales.

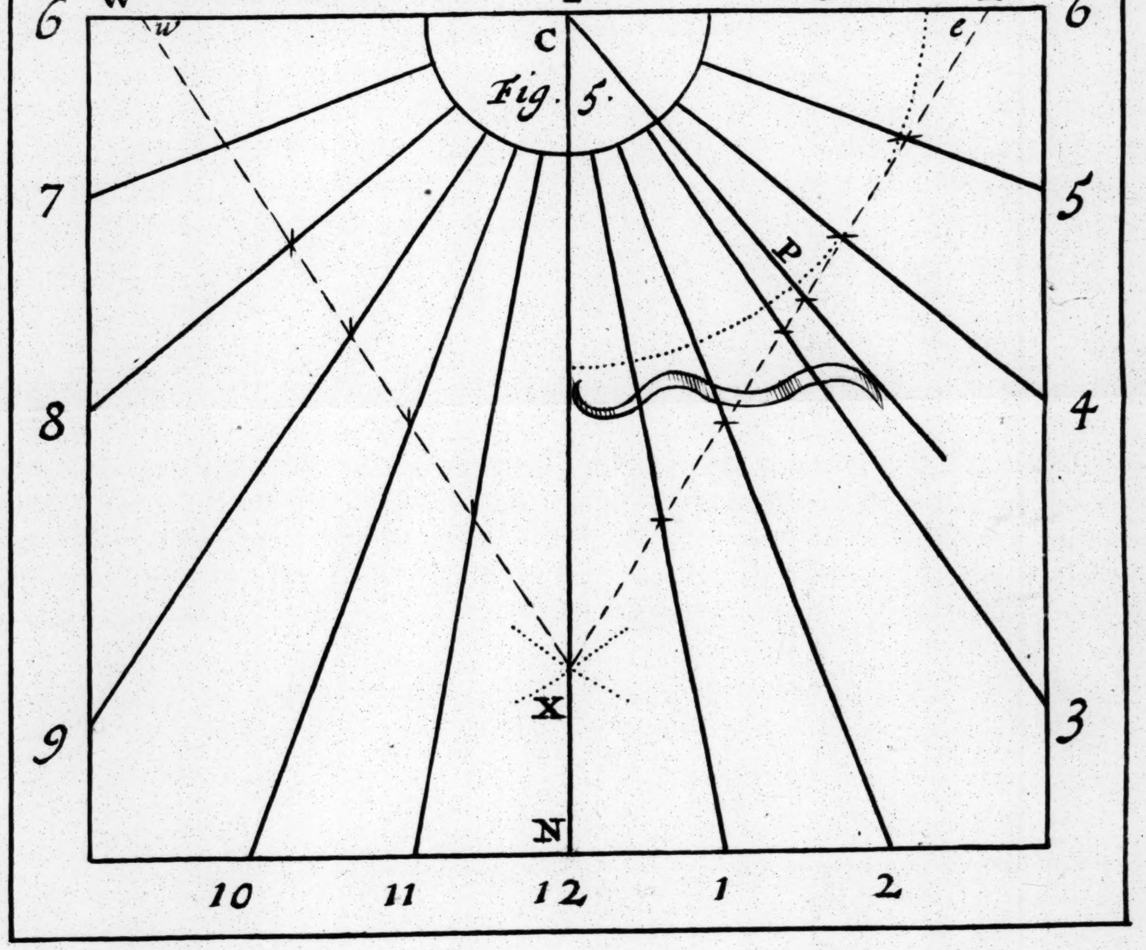
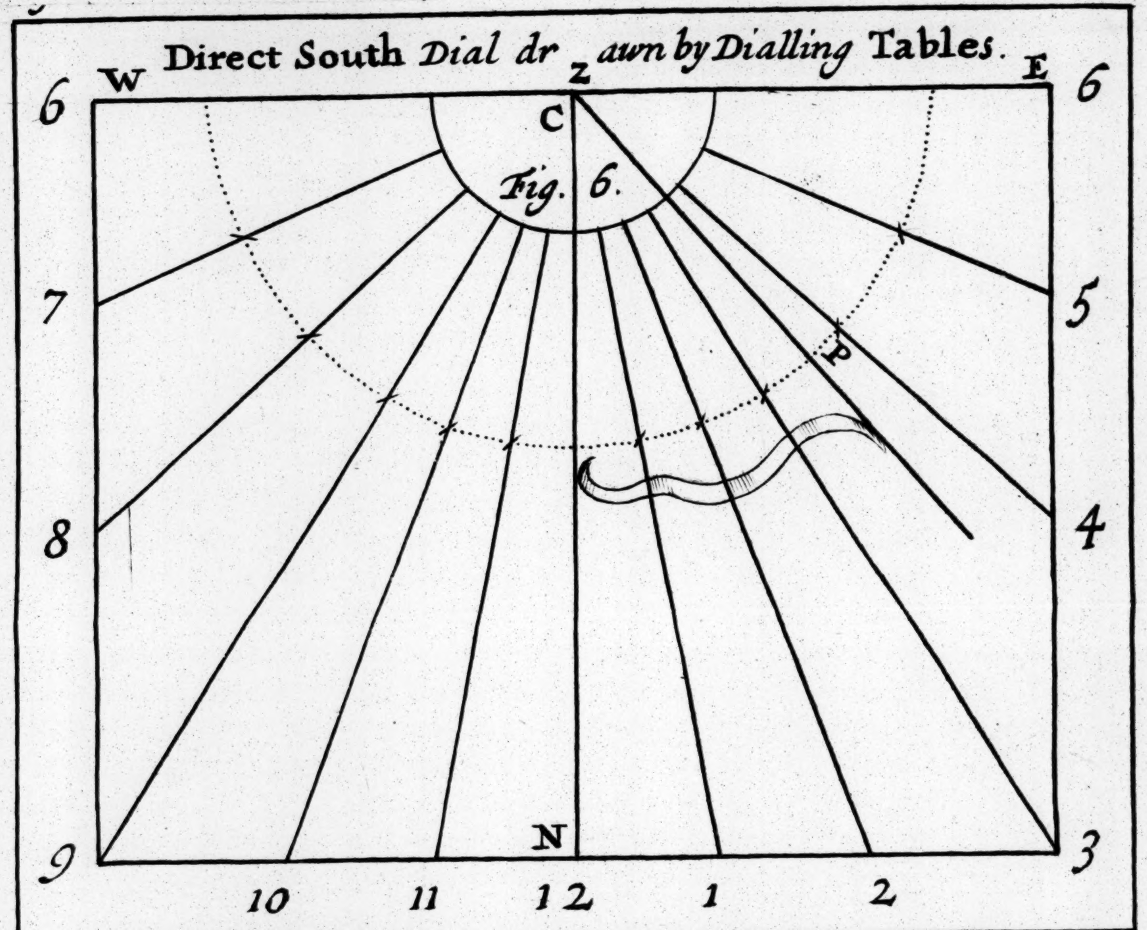
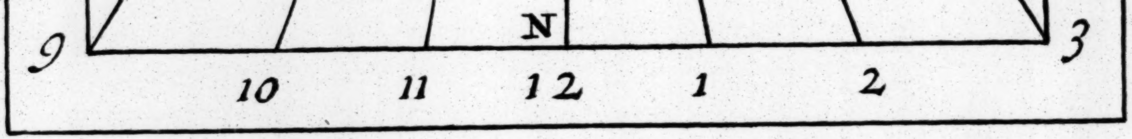


Fig. 5.



Direct South *Dial drawn by Dialling* Tables.



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dical Months conſtitute (what is called) a *Lunar* Year; which therefore conſiſts of 354 Days, 8 Hours, and a little more than 48 Minutes. So that the exact Difference between the Aſtronomical Solar and Lunar Year is 10 Days, 21 Hours, and 1 Minute.

16. *The* Aſtronomical *Solar Year, how adapted to* Civil *or Common Uſe.*

But whereas the Hours and Minutes above the whole Days of a Solar Year, can't be taken Notice of in Civil or Common Uſe; therefore the Civil Solar Year in uſe among us, is made to conſiſt only of 365 Days for three Years together, and every fourth Year of 366 Days. Namely, whereas in an Aſtronomical Solar Year there are, above the whole Days, 5 Hours, and very near 49 ½ Minutes; there are added every Year about 11 Minutes, to make up this juſt ſix Hours; and theſe ſix Hours amount juſt to a whole Day in four Years.

17. *A* Beſſextile *or* Leap-Year, *why ſo called.*

Each of the three Years conſiſting only of 365 Days, is called a *Common* Year; and every fourth Year conſiſting of 366 Days, is called a *Beſſextile* or *Leap-Year.* The Reaſon of its being called *Beſſextile* is, becauſe the Day ariſing in four Years out of the ſix Hours afore-mentioned, is this

Year *intercalated*, i. e. inſerted into the Calendar, by reckoning (according to the *Roman* Way, *bis ſextum Kal. Martii*, i. e. by reckoning) *twice the ſixth* Day before the Calends of *March*, which anſwers to our twenty-fourth of *February*. But although we took our Civil Solar Year from the *Romans*, yet we do not imitate them in this particular, but inſtead of reckoning *February* twenty-four twice, we reckon this Year twenty-nine Days in *February*, whereas in common Years we reckon but twenty-eight. But although we reckon not *February* twenty-fourth twice, yet we reckon twice the Calendar Letter always belonging to *February* twenty-four ; namely *f*. And by this means, that which was the *Sunday* Letter from *January* the firſt to *February* twenty fourth, will be ſo no longer, but the Letter next before it in the Order of the Alphabet, will be the *Sunday* Letter for the remaining Part of the Year. From which *Leap* or Change from one *Sunday* Letter to another, this Year came to have the Name of *Leap-Year* amongſt us.

18. *The Civil Solar Year too long by eleven Minutes; and of the* Gregorian Reformation *of the Calendar cauſed thereby.*

It has been afore obſerved, that the Aſtronomical or true Solar Year does conſiſt of 365 Days, 5 Hours, 49 $\frac{1}{2}$ Minutes. Whereas to adapt it to Civil Uſe, the Solar Year is conceived to conſiſt of 365 Days, and juſt ſix Hours; (which ſix Hours in four Years make up juſt another whole Day;) ſo that the Civil Solar Year is about eleven Minutes longer than the true Solar Year. Hence it comes to paſs, that the Seaſons, or (which comes to the ſame) the Equinoxes and Solſtices, depending on the true Solar Year, do not keep always to the ſame Time or Part of our Civil or Common Year, but vary every Year about eleven Minutes, (*viz.* 10′, and 48″,) and conſequently about a whole Day in 133 Years. Wherefore from A. D. 325, when the famous *Nicene Council* was held, to A. D. 1582, wherein Pope *Gregory* the XIII. reformed the Calendar, there was found to have aroſe a Variation of ten Days; the Vernal Equinox, which at the Time of the *Nicene Council* fell about the 21ſt of *March*, in A. D. 1582, being found to fall on *March* the 11th. Hereupon the fore-mentioned *Pope*, intending to bring back the Equinox to the Time of the Year it fell upon at the *Nicene Council*, ordered *October* 5*th*. (in the Year 1582.) to be reckoned *October* 15*th*, thereby ſuppreſſing ten Days, and making the following *March* 11*th* to be reckoned *March* 21*ſt*; and ſo the Vernal Equinox, which otherwiſe would have been reckoned to fall on *March* 11*th*, to fall on *March* 21*ſt*, as at the Time of the *Nicene Council*. And that the like Variation might not happen again, the ſaid *Pope* ordered, that once in 133 Years a Day ſhould be taken out of the Calendar; or (which comes to the ſame) that three Days ſhould be taken out every four Hundred Years, after this Method, *viz.* whereas, according to the Account afore (and ſtill by us) uſed, *every* Hundredth Year from the Nativity of our Saviour is a *Leap-Year*; from thenceforth only every *four* Hundredth Year ſhould be a *Leap-Year*; and the other Hundred Years ſhould be common Years.

19. **Old-Style *and* New-Style, *what*.** As the Account afore in uſe, is thence called the *Old-Style*; as alſo the *Julian Account* or *Julian Year*, from *Julius Cæſar*, by whoſe Authori

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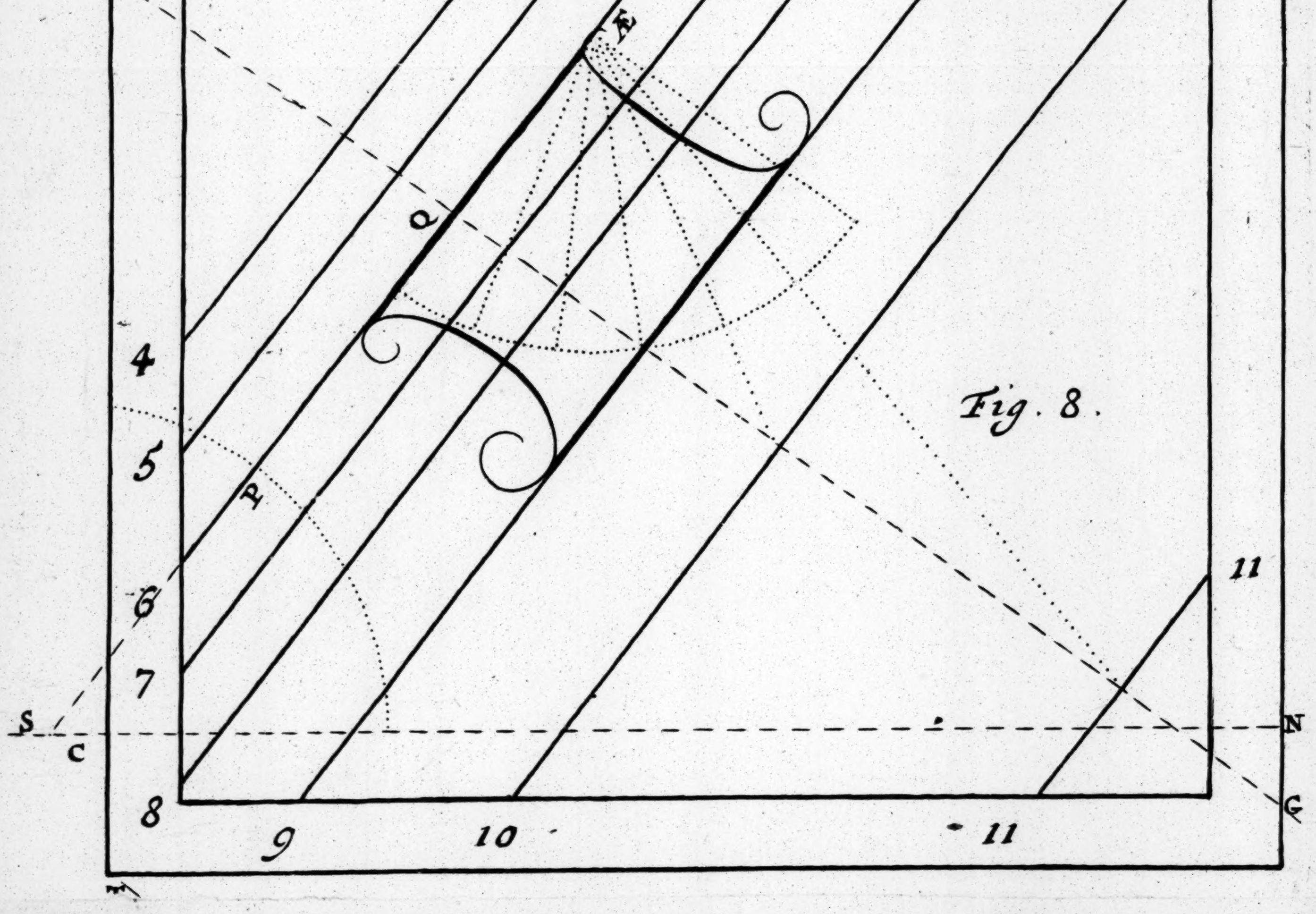
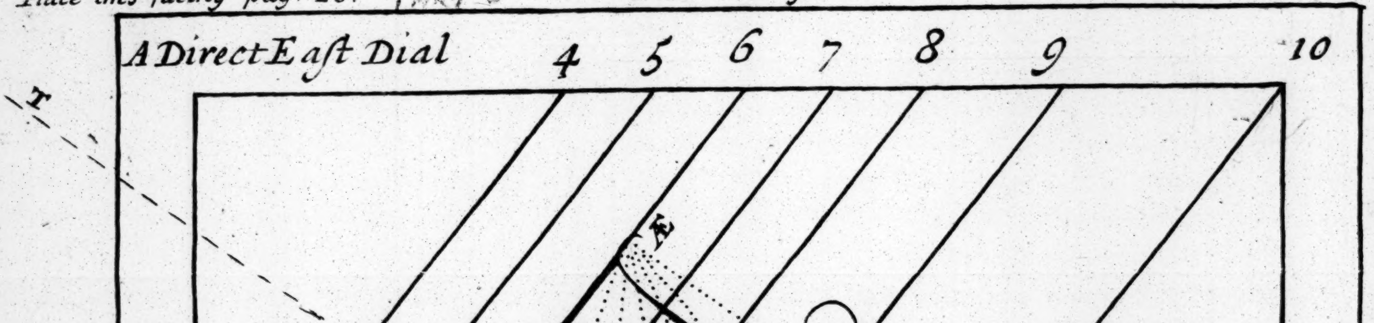


Fig. 8.

Place this facing pag. 26. Dial. Plate 5.



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it was firſt introduced among the omans, forty-ſix Years before Chriſt: o this Form of the Civil Solar Year ntroduced by the fore mentioned Pope regory, is from him called the *Gregoian Account*; as alſo from its being comparatively with the former) newintroduced, the *New-Style*. And his is uſed in *Italy*, *France*, *Spain*, nd where-ever the *Pope*'s Authority is cknowledged; and as it had been eceived from the firſt by the *Popiſh* ountries of *Germany*, ſo towards the nd of the laſt Century it was received lſo by many of the *Reformed* People f *Germany*, as to their Civil or Comnon Account of Time. For as to heir Eccleſiaſtical Account, or finding he (*Eaſter Moon*, or) Time of *Eaſter*, heſe follow the *Rudolphine Tables* of epler. The *Old-Style* is ſtill uſed by *U*s of this Iſland, as alſo in *Ireland*, nd by ſome others.

20. *Of the various Beginnings of the Civil Solar Year in various Countries.*

Although the Calends or Firſt of *anuary* is now-a-days, almoſt throughut all *Europe*, commonly looked on as he Beginning of the Year, whether *ulian* or *Gregorian*; yet there are ome, who reckon the Beginning of from ſome other Part of the Year.

Thus the *Venetians*, *Florentines*, an
Piſans in *Italy*, and the Inhabitants o
Triers or *Treves* in *Germany*, recko
the Beginning of the Year from th
Vernal Equinox. The Church o
England, in Conformity to the Ant
ent Uſage of the Chriſtian Churc
reckons her Eccleſiaſtical Year fro
the Feaſt of the Annunciation, com
monly called by us *Lady-Day*. An
our Civil Year, according to our La
takes alſo its Beginning from the ſam
Day; though the common Peopl
and others among us in Matters n
requiring the Nicety of a Leg
Date, reckon the Beginning of ou
Year from the firſt of *January*.

21. *The* Aſtronomical *Lunar Year now adapted to* Civil *Uſe*; *and firſt of the* Wandring *Lunar Year.*

It has been afore obſerved, that t
Lunar Year, ſtrictly or according t
Aſtronomical Exactneſs, conſiſts o
354 Days, 8 Hours, and a little mo
than 48 Minutes. But to adapt th
alſo to Civil Uſe, the Civil Luna
Year is eſteemed to conſiſt only of 35
whole Days. So that the Differen
between the Civil Lunar Year of 35
Days, and the Civil Solar Year o
365 Days, is an eleven Days; th
former being ſo much ſhorter than th
latter. Hence it comes to paſs, th

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ch as uſe the Civil Lunar Year, ithout any Regard to the aforeſaid ifference, their Year, ſuppoſing it begin now in Spring, will after ght Years Time begin in Winter; d after eight Years more in Auımn, and ſo after that in Summer; d laſtly, after about thirty-three ears in all, will begin in Spring ain. Hence it is called *Annus Lunas Vagus*, or the *Wandring Lunar ear*; becauſe its Beginning thus *nders* through the ſeveral Seaſons, d that in the Memory of Man. And is is the Sort of Year uſed by the *urks*.

22. *Of the* fixed *Lunar, or* Luni-Solar *Year.*

Others, though they uſed or uſe e Civil Lunar Year, yet remedy the re-mentioned Inconveniency of its us changing the Time of its Beginıng, by having Regard to the forementioned Difference of eleven Days, etween the Civil Solar and Lunar ear; namely, by intercalating ſo any Months, as the ſaid Difference eleven Days ariſe to in ſuch a umber of Years. By which means e Lunar and Solar Year are kept ſo djuſted one to the other, as that the eginning of the Lunar Year will

keep in a manner fixed to the ſam
Part of the Solar Year. Hence thi
Sort of Year is called the *fixed* Luna
Year; as alſo the *Luni-Solar* Year
and it is uſed by the *Jews*, and th
Church of *Rome* in her Eccleſiaſtica
Account. And thus much for the ſeveral *Parts*, into which Time in general is diſtinguiſhed.

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Place this facing Pag. 3

Pag. 30. Pr 3. Dial. Plate 6.

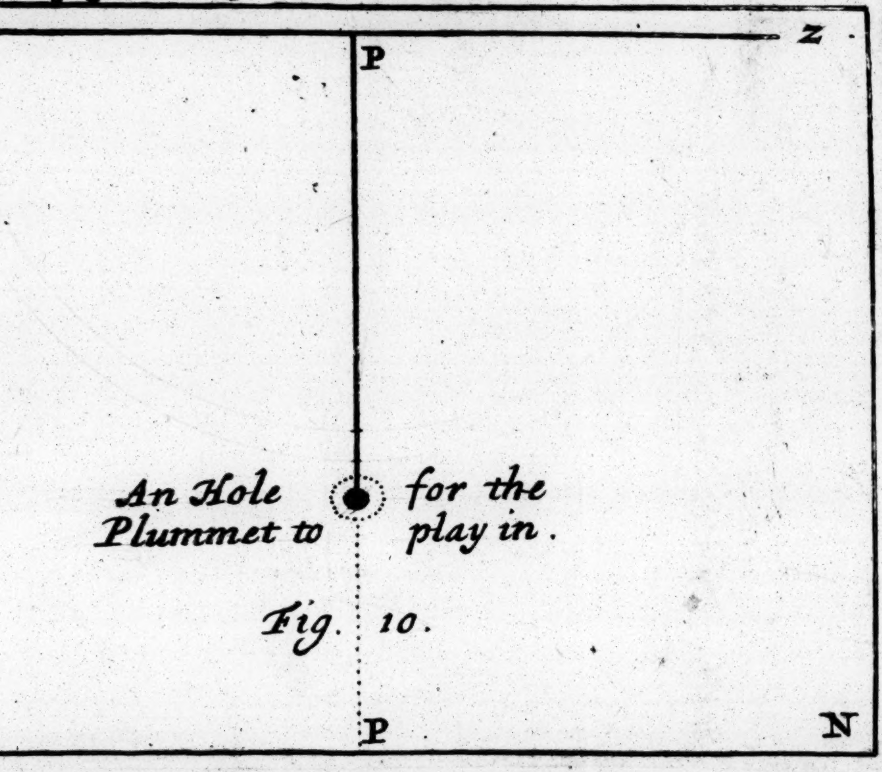

Fig. 10.

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CHAP. III.

f the *ſeveral* Characters *of Time in general; and particularly of the* Cycle of the Moon, *and the* Epacts.

1. *The Characters of Time twofold.*

PRoceed we now to ſpeak of the ſeveral *Characters*, whereby par- icular Times are diſtinguiſhed one om the other. And theſe are either *atural* or *Inſtituted* by Men.

2. *The Natural Characters of Time, what.*

The Natural Characters of Time re ſuch as depend on Natural Cauſes, nd are theſe; *viz. New Moons*, *Full oons*, *Eclipſes*, either of the Sun or oon, the two *Equinoxes*, the two *olſtices*, the *Cycle of the Moon*, and he *Epacts* of the Moon. All which ave been ſufficiently ſpoken of in the oregoing Treatiſe of Aſtronomy, ex- ept the *Cycle* and *Epacts* of the Moon; hich are therefore to be here ex- plained.

The

3. *Of the* Cycle of the Moon.

The *Cycle* of the Moon then is be eſteemed a (†) Natural Charact of Time, becauſe it depends on Natural Cauſe, *viz.* the Motion o the Moon: which is ſuch, that, afte nineteen Years very nearly, the Ne Moons and Full Moons are obſerve to fall on the ſame *Nuchthemeron* o the *Julian* Year, as they did ninetee Years afore. Hence this Cycle is otherwiſe termed the *Cycle of ninetee Years.*

4. *Of the* Golden Number, *or* Prime.

The New Moons being obſerved t fall out thus, they were wont formerly to calculate or find out the Time o the New Moons (without the Help o Aſtronomical Tables) after this manner. They obſerved, on what Day of each Calendar Month the New Moons fell, in each Year of this Cycle; and to the ſaid Days they ſet reſpectively the Number of the ſaid Year. Thus obſerving, that the New Moons, in the firſt Year of this Cycle, fell on *January* 23*d*, *February* 21*ſt*, *March* 23*d*,

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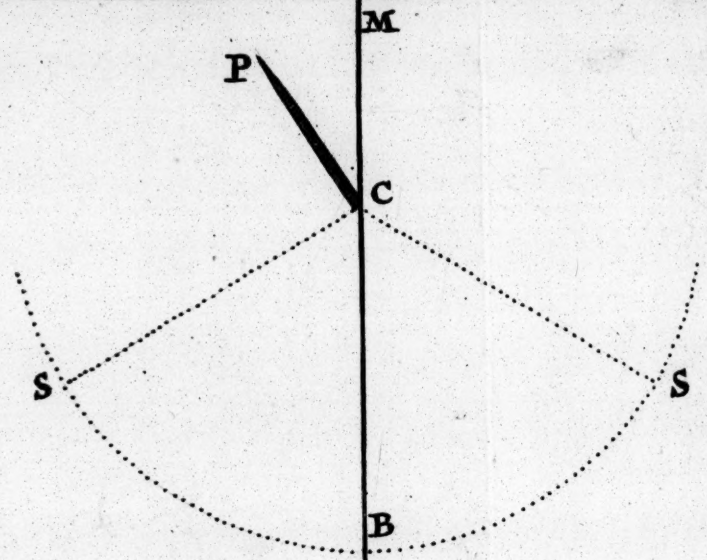
(†) Some eſteem this, not a *Natural*, but an *Inſtituted*, Character of Time. But not ſo properly, ſince it depends on a *Natural* Cauſe.

&c.

Fig. 11



A Plane, whose Meridian Line M L is to be found
notes ye Center or Place where ye Pin C P. is set up: C
denote ye two shades of ye Pin. B. denotes ye middle po
the Arch S B s.

found: C . *de*
up: C S & C *s*
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&c. they ſet the Number 1 to the ſaid Days. And in like manner, obſerving that, in the ſecond Year of this Cycle, the New Moons fell on *January* 12*th*, *February* 10*th*, *March* 12*th*, &c. to the ſaid Days they ſet the Number 2. And after this Method they went through all the nineteen Years of this Cycle; as may be ſeen (||) in the Calendar adjoyning to the End of this Chronological Treatiſe. The Numbers thus ſet to the Days, whereon the New Moons fell in each Year, are called the *Golden Numbers*, either becauſe they were formerly wont to be writ in Gold, or elſe becauſe of their Golden or Great Uſe. Any one of theſe Golden Numbers is otherwiſe called the (*) *Prime*, becauſe the ſaid Numbers were placed n the Prime or Firſt Column of the Calendar, as they ſtill are in our Church Calendar, and in the Calendar adjoyning to this Treatiſe. The

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(||) As alſo in the Calendar of the Common-Prayer-Book.

(*) It is called by this Name in the Directions be- ging to the *Table for finding Eaſter for ever* in the mmon-Prayer Book.

Golden Numbers being thus placed, it was eaſy to find, what Day of any Month in any Year given the New Moon would fall upon, it being known to what Year of the Moon' Cycle the Year given anſwered. Thu ſuppoſe, A. D. 354, to be the Yea given, which anſwers to the 13t Year of the Moon's Cycle; and ſuppoſe it to be enquired, what Day o *March* the New Moon fell upon tha Year: I look for the Number 13 i the Month of *March*, and find it ſe to the 11th Day; whereby is ſhewn that the New Moon fell that Year o that Day of *March*.

5. *How to find the* New Moons *at preſent by the Golden Number.*

And by this Method the Ne Moons could be found with Accuracy enough at the Time of the *Nicen Council*; foraſmuch as the Golde Number did then ſhew the Day (*i.* the *Nuchthemeron*) within which th New Moon fell out. And hereupo is founded the *Rule* of the *Nicen Council* for finding *Eaſter*, of whic more in Chapter 7th. It is here t be obſerved, that the Golden Numbers do not now ſhew the Days whereon the New Moons fall. Fo the Cycle of the Moon is leſs tha

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nineteen *Julian* Years, by 1 Hour, 27 Minutes, and almoſt 32 Seconds. Whence it comes to paſs, that, although the New Moons fall again upon the ſame *Days*, as they did nineteen Years afore, yet they fall not on the ſame *Hour* of the Day or *Nuchthemeron*; but 1 Hour 27 Minutes, and almoſt 32″ Sooner. And this Difference ariſing in about 312 Years to a whole Day, hence the New Moons after every 312 Years fall a whole Day (*i. e. Nuchthemeron*) ſooner. Upon this Score the New Moons fall now four Days ſooner, than they did at the Time of the *Nicene Council*. Which being obſerved, the Day (*i. e.* the *Nuchthemeron*, though not the Hour of it) on which the New Moons fall, may be now found by the Golden Number. For inſtance, I would know on what Day of *January* the New Moon will fall next Year, *viz.* 1712. This, by the Rule delivered in the following Paragraph, will be found to be the third Year of the Moon's Cycle. I look therefore for the Golden Number 3, and find it (in the Calendar) placed to *January* the 1*ſt*, and again to *January* the 31*ſt*;

ſo that about the Time of the *Nicene Council*, there were two New Moons in the Month of *January*, every third Year of the Moon's Cycle. Whereas, according to the fore-mentioned Obſervation, each of the ſaid two New Moons falling now four Days ſooner, the firſt of them falls upon *December* 28*th* of this preſent Year, 1711; and only the other falls in the *January* following, *viz.* on *January* 27*th*, 1712.

6. *To find, what* Year of the Moon's Cycle *any given* Year of Chriſt *anſwers to.*

It remains now to ſhew, how it is to be found, what Year of the Moon's Cycle any given Year of Chriſt anſwers to. And this is done by (†) adding 1 to the given Year of Chriſt, and then dividing the Sum by 19. I 19 juſt divides the Number of th Year given, then it is the 19th o laſt Year of the Moon's Cycle; if 1 does not juſt divide the ſaid Number but ſomewhat of the ſaid Number remains over, then the ſaid Remainde ſhews the Year of the Moon's Cycle For inſtance, I would know to wha Year of the Moon's Cycle A. D. 171

(†) The Reaſon of adding 1 is, becauſe the Æ of Chriſt began in the ſecond Year of this Cycle.

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Dial. Plate 7.

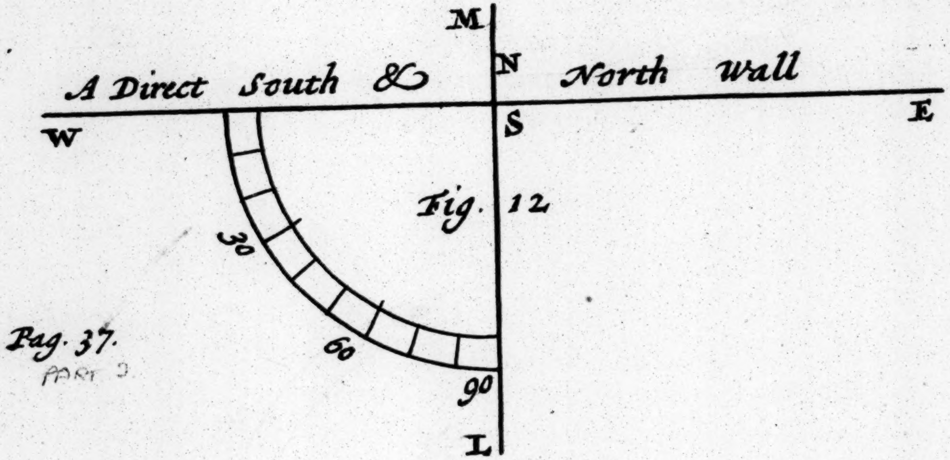

Fig. 12

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PART 2

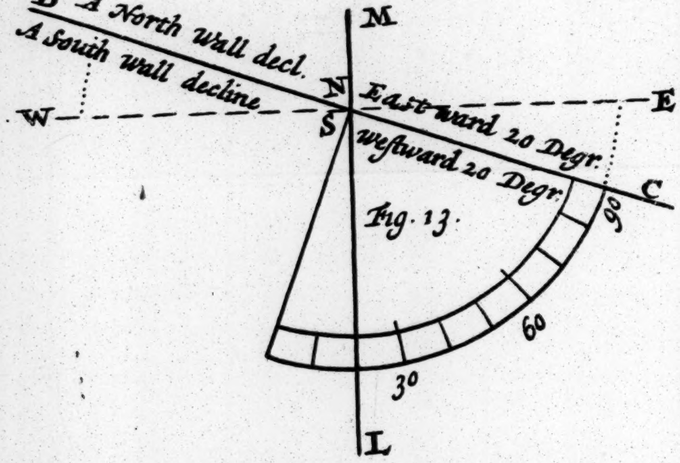

Fig. 13.

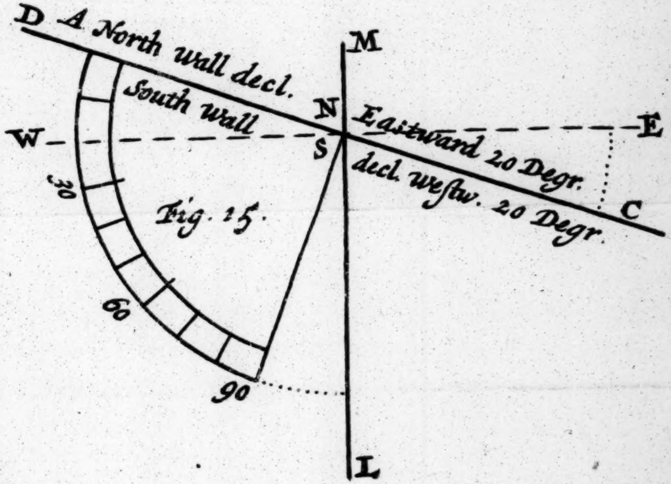

Fig. 15.

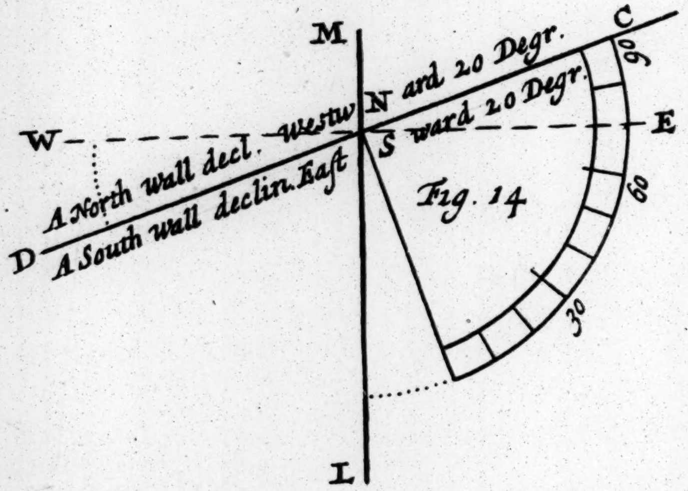
Fig. 14
M
C
W
N
S
E
D
L
A North wall decl. westw ard 20 Degr.
A South wall declin. East ward 20 Degr.
90
60
30

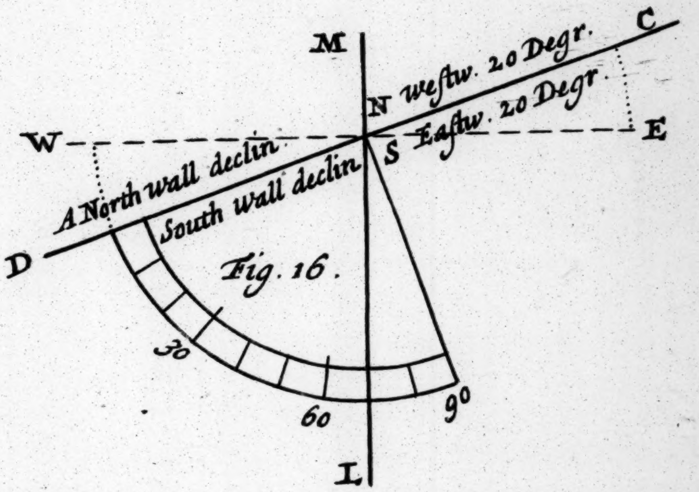
Fig. 16.
M
C
W
N
S
E
D
L
A North wall declin. westw. 20 Degr.
South wall declin. Eastw. 20 Degr.
30
60
90

nſwers. And by this Rule I find it o anſwer to the third Year of the Cycle; for 1712 + 1 being divided y 19, there will remain 3. And thus nuch for the Cycle of the Moon.

7. *Of the* Epacts *of the Moon.*

Come we next to the Epacts of the Ioon. It has been afore obſerved, hat the Civil Lunar Year is eleven Days ſhorter than the Civil Solar ear. Conſequently, two ſuch Lunar ears will be twenty-two Days ſhorter han two ſuch Solar Years; and three unar Years will be ſhorter than three olar Years by thirty-three Days. ow ſuch as uſe the fixed Lunar otherwiſe called the Luni-Solar) Year, order to adjuſt the ſaid Lunar Year the Solar, as often as the Lunar ear does thus come to be thirty-hree Days ſhorter than the Solar, do ntercalate a Month of thirty Days nto the Lunar Year; except only very 9th Year (*viz.* the laſt Year of e Moon's Cycle) when the intercaated Month conſiſts but of twenty-ine Days.

Golden Number.	Epacts.
1	XI.
2	XXII.
3	III.
4	XIV.
5	XXV.
6	VI.
7	XVII.
8	XXVIII.
9	IX.
10	XX.
11	I.
12	XII.
13	XXIII.
14	IV.
15	XV.
16	XXVI.
17	VII.
18	XVIII.
19	XXIX.

By this means the Civil Lunar and Solar Years are kept ſo adjuſted together, as that the firſt Year of the Moon's Cycle comes not ſhorter of the Solar Year than eleven Days; the ſecond Year of the ſaid Cycle not ſhorter than twenty-two Days; the third Year ſhorter only by three Days, *&c.* as may be ſeen in the adjoyning Table. Namely, as the New Moons are the ſame (*i. e.* fall on the ſame Day) every nineteen Years, ſo the Difference between the Lunar and Solar Year is the ſame every nineteen Years. And becauſe the ſaid Difference is always to be added to the Lunar Year, in order to adjuſt or make it equal to the Solar Year; hence the ſaid Difference reſpectively belonging to each Year of the Moon's Cycle, is called the *Epact* of the ſaid Year, *i. e.* the Number to be *added* to the ſaid Year to make it equal to the Solar Year.

8. *How to find the Epacts of the Moon according to the* Julian *Account.*

Upon this mutual Reſpect between the Cycle of the Moon, and the Cycle of the Epacts, there is founded this Rule for (‖) finding the Epact belonging to any Year of the Moon's Cycle. Multiply the Year given of the Moon's Cycle into 11; if the Product be leſs than 30, it is the Epact ſought; if the Product be greater than 30, divide it by 30; and the Remainder of the Dividend is the Epact. *Ex. gr.* I would know the Epact for A. D. 1712, which has been already found to be the third Year of the Moon's Cycle. Wherefore three is the Epact for A. D. 1712: for $11 \times 3 = 33$, and 33 being divided by 30, there is left three of the Dividend for the Epact.

(‖) Namely in reſpect of the *Julian* Account. For in reſpect of the *Gregorian* Account there is a different Method, the Epact being different. However, the *Julian Epact* being known, it is eaſy thence to know the *Gregorian Epact*. Namely, if the *Julian* Epact be greater than 11, Subſtract 11 from it: if leſs, add 30 to it, and out of the Sum Subſtract 11, and the Reſidue will be the *Gregorian* Epact. For inſtance; it has been found, that Three is the *Julian* Epact for A. D. 1712. Wherefore $3 + 30 = 33$, and $33 - 11 = 22$, which laſt Number (*viz.* 22) is the *Gregorian* Epact for the ſaid Year, 1712.

9. *To find by the Epacts,* what Day of any Month in any Year *the New Moon falls on.*

By the Help of the Epact may b found, what Day of any Month i any Year the New Moon falls on thus: To the Number of the Month from *March* incluſively, add the Epa of the Year given; if the Sum be leſ than 30, Subſtract it out of 30; i greater, Subſtract it out of 60; an the Remainder will be the Day, whereon the New Moon will fall. *N. B* If the New Moon be ſought for th Month of *January* or *March*, the nothing is to be added to the Epact if for *February* or *April*, then only is to be added. *Ex. gr.* I would kno what Day of *December* the New Moo will fall on this A. D. 1711, the Epact whereof is 22. By the aforeſai Rule, I find it will be *December* 28*th* for $22 + 10 = 32$, and $60 - 32 = 28$

10. *To find the* Age *of the* Moon.

The Day, whereon the New Moo falls, being thus found, it is ea from thence to infer, what the *Age the Moon* is on any Day given. However, there is a peculiar Rule commonly made uſe of to this purpoſ which is this: Add the Epact of th Year, the Number of the Month fro *March* incluſively, and the given Da of the Month all into one Sum which, if it be leſs than 30, ſhews the Age of the Moon; if it be greater than 30, divide it by 30, and the Remainder of the Dividend ſhews the Age of the Moon, or how many Days it is from the laſt New Moon. And this Method will never err a whole Day. For inſtance, I would know, what will be the Age of the Moon on *December* 31*ſt* of this Year 1711. By this Rule I find, that the Moon will then be three Days Old, *i. e.* that it will then be three Days from the laſt New Moon. For 22 + 10 + 31 = 63, and 63 being divided by 30, there will remain of the Dividend 3. And this exactly agrees to the other foregoing Rule, whereby it was found, that the New Moon will fall on *December* 28*th* of this Year 1711.

11. *The Epacts of the Moon are to be eſteemed* Natural *Characters.*

It remains only to obſerve, that the Epacts of the Moon are juſtly to be eſteemed as (*) Natural Characters of Time; foraſmuch as they depend on a Natural Cauſe, *viz.* the Motion of the Moon. For the Reaſon, why

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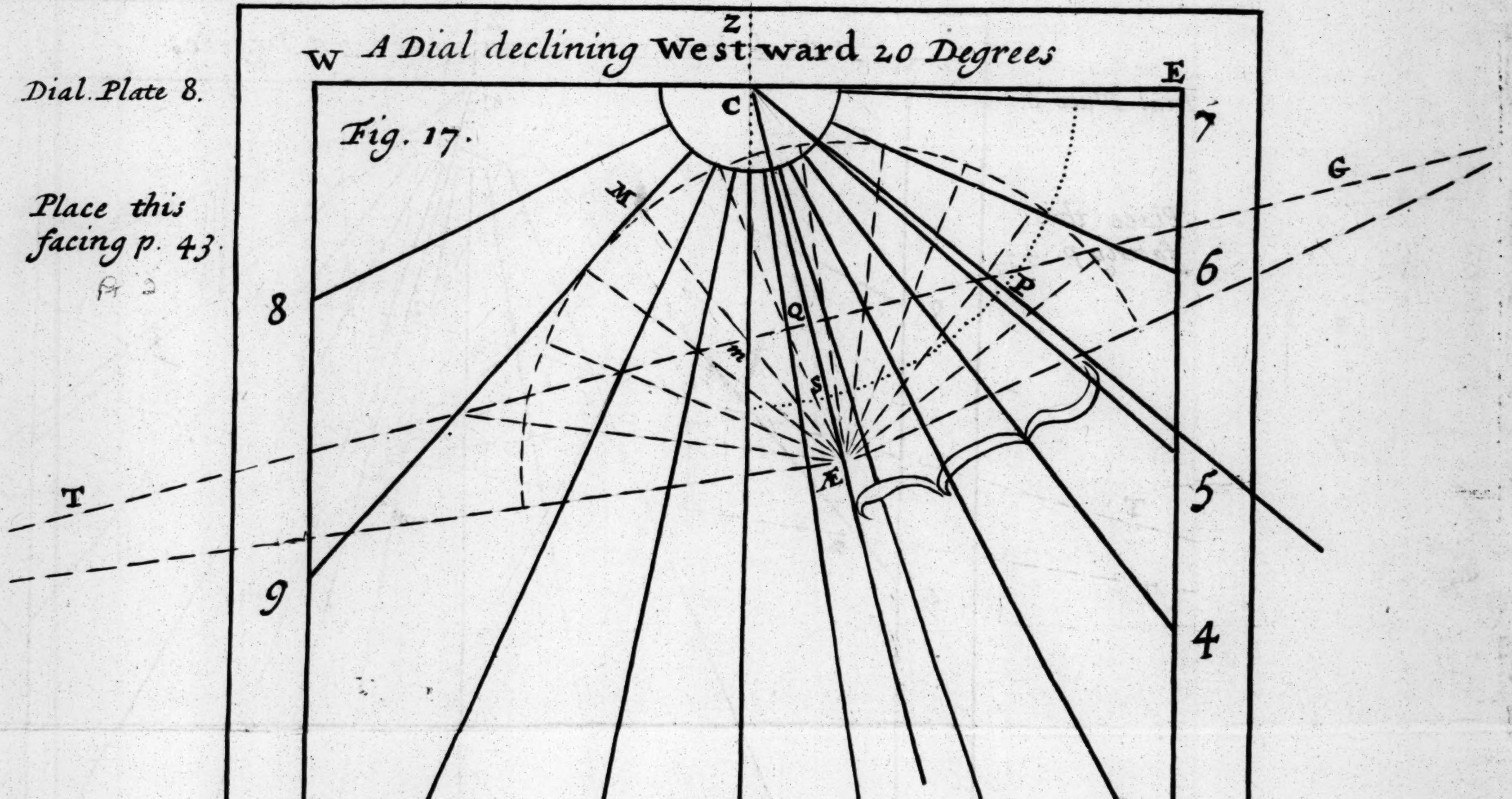
(*) This is inſiſted upon, becauſe the Epacts are by ſome eſteemed, not *Natural*, but *inſtituted* Characters.

the Civil Lunar Year is leſs than the Civil Solar (*i. e. Julian*) Year by eleven Days, is, becauſe as the Moon goes round her *Orbit*, there are twelve Conjunctions of her and the Sun, (or twelve Synodical Months, which make up a Lunar Year) in leſs Time by eleven Days very nearly, than the Sun ſeems to go once round the Ecliptick. And in like manner, the Reaſon why the Cycle of the Epacts, as well as that of the Moon, conſiſts of nineteen Years, is, becauſe in that Interval of Time, the Moon's Motion has (much) the ſame Reſpect to the Sun, as it had nineteen Years afore. And thus much for the *Natural* Characters of Time.

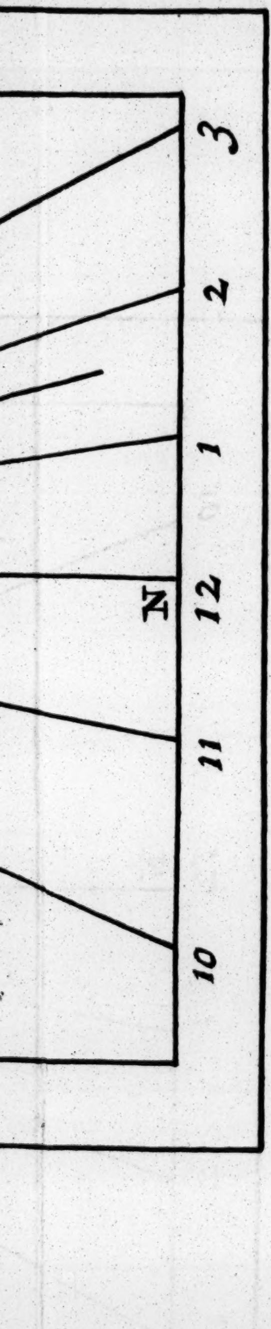
Dial. Plate 8.

Place this facing p. 43.



A Dial declining Westward 20 Degrees

Fig. 17.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CHAP. IV.

ſ *the Cycle of the* Sunday-Letter, *commonly called the* Cycle of the Sun.

THE *Cycle of the Sun* is very properly ſo called, foraſmuch as it
lates not to the Courſe of the Sun,
t to the Courſe of the Dominical
Sunday-Letter; whence it ought to
called the *Cycle of the Sunday-Letter*.
conſiſts of twenty-eight Years, for-
much as after every twenty-eight
ars, the Courſe or Order of the
nday-Letter is the ſame, as it was
ore.

1. *The Cycle of the Sun* improperly *ſo call'd.*

The Uſe of this Cycle ariſes from
) the Cuſtom of Aſſigning in the
lendar to each Day of the Week,
e of the firſt ſeven Letters of the
phabet; *A* being always affixed to

2. *Of the Uſe of this Cycle.*

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*) This Cuſtom being Arbitrary, hence this Cycle
ot a Natural Character, but of Humane Inſtitu-

January 1*ſt*, whatever Day of the Week it be; *B* to *January* 2*d*, C to *January* 3*d*; and ſo in order G to *January* 7*th*. After which the ſame Letters are repeated again, *A* being affixed to *January* 8*th*, &c. According to this Method, there being 52 Weeks in a Year, the ſaid ſeven Letters are repeated 52 Times in the Calendar. And were there but juſt 52 Weeks, the Letter G would belong to the laſt Day of the Year, as the Letter *A* does to the firſt; and conſequently, that Letter, which was at firſt conſtituted the *Sunday-Letter*, (and the ſame is to be underſtood of the other Days of the Week) would always have been ſo; and there would have been no Change of the *Sunday-Letter*. But our Year conſiſting of 52 Weeks, and an odd Day over, hence it comes to paſs, that the Letter *A* belongs to the laſt, as well as to the firſt Day of every Year. For, although every Leap-Year conſiſts of 366 Days, and ſo of two Days over 52 Weeks, yet it is not uſual to add a Letter more, *viz.* *B*, to the End of the Year; but inſtead thereof to repeat the Letter *F*

which

Pag. 44.

PART 3

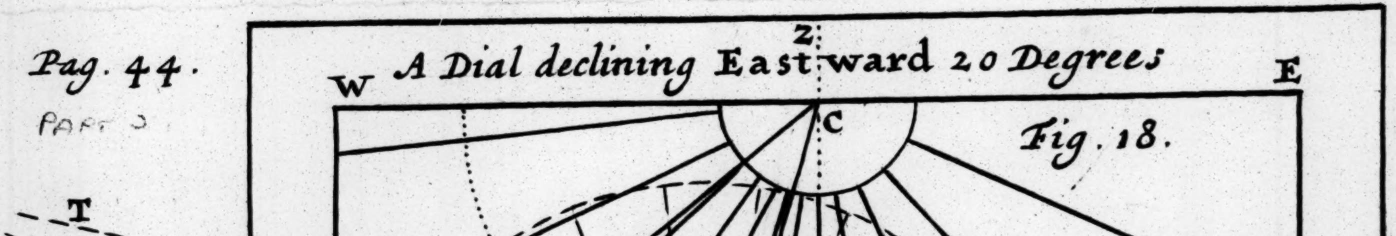
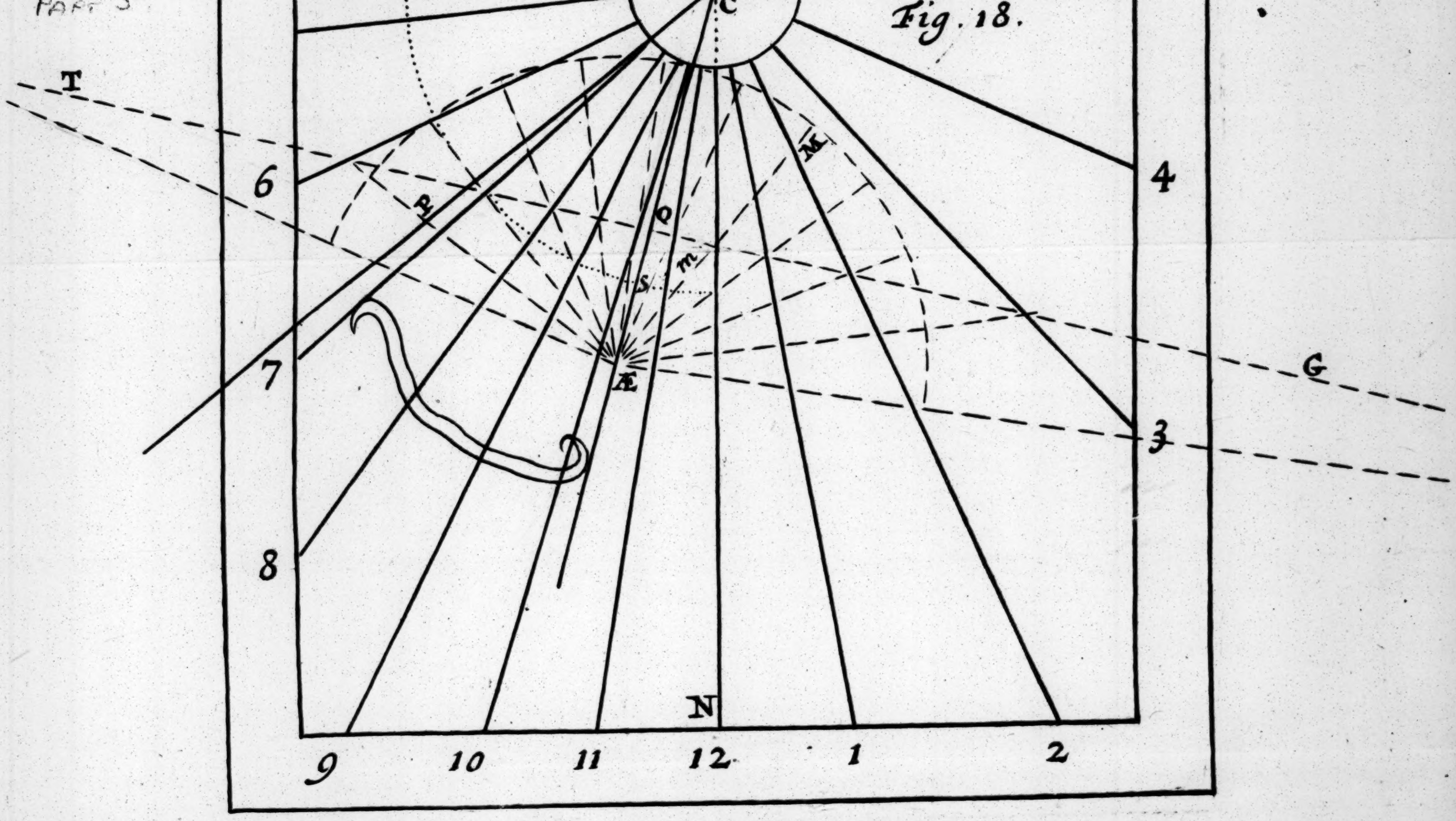


Fig. 18.



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which (†) anſwers to the 24th of *February*, and to affix it again to the intercalated Day (as has been afore obſerved) which we call *February 25th*. By which means the ſaid ſeven Letters of the Alphabet remain affixed to the ſame Days of a Leap-Year, as of a Common Year, through all the Reſt of the Calendar, both before and after. The Letter *A* then thus always belonging to the firſt and laſt Day of the ſame Year, and conſequently to the laſt Day of the Old Year, and firſt Day of the New; it thence comes to paſs, that there is a Change made as to the *Sunday-Letter* in a backward Order, that is, ſuppoſing G to be the *Sunday-Letter* one Year, *F* will be the next, and ſo on: which is illuſtrated by the following Table; where it muſt be obſerved, that the great Letter is the *Sunday-Letter* for each Year.

(†) As may be ſeen in the Calendar adjoined to the End of this Treatiſe.

December 1711.		
a . . .	24	*Monday*
b . . .	25	*Tueſday*
c . . .	26	*Wedneſday*
d . . .	27	*Thurſday*
e . . .	28	*Friday*
f . . .	29	*Saturday*
G . . .	30	*Sunday*
a . . .	31	*Monday*

January 1712.		
a	1	*Tueſday*
b	2	*Wedneſday*
c	3	*Thurſday*
d	4	*Friday*
e	5	*Saturday*
F	6	*Sunday*
g	7	*Monday*
a	8	*Tueſday:*

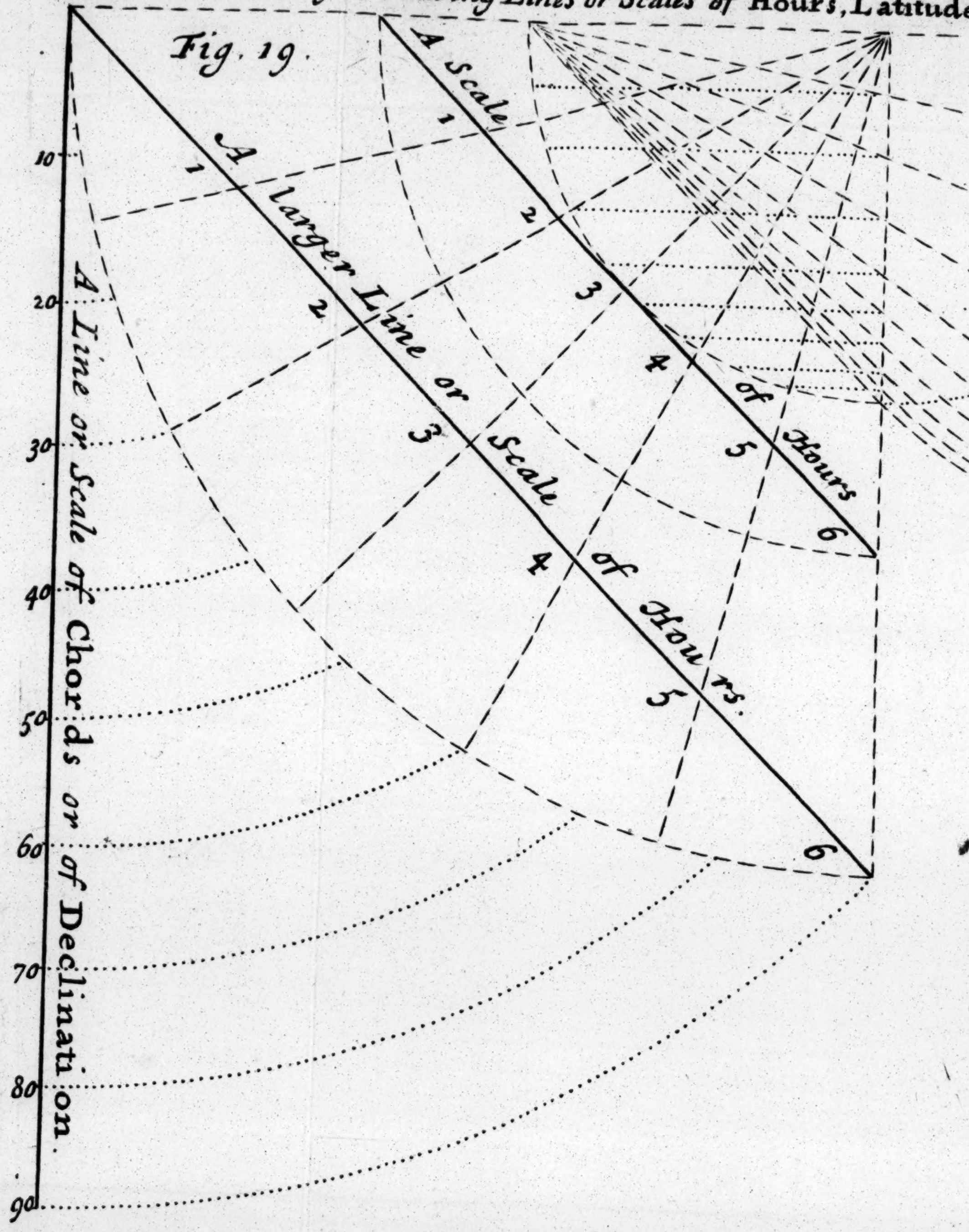
3. *The* odd Day *in every Common Year, makes a* ſingle *Change in the* Sunday-Letter.

As from the foregoing Table it i evident, how the odd Day above 5 Weeks in a Year does make the *Sunday-Letter* change from one Letter to the next to it in a backward Order so it is obvious, that were there bu this ſingle Change, *Sunday* would b denoted by each of the ſeven Letter every ſeven Years, and ſo the Cycl of the *Sunday-Letter* would conſiſt o no more than ſeven Years. But now there being in every fourth or Leap-Year two Days above 52 Weeks hence it comes to paſs, that there i every ſuch Year a double Change made as to the *Sunday-Letter.* Namely, as the odd ſingle Day above 5 Weeks in a common Year, makes (a has been ſhewn by the foregoing Table) the firſt *Sunday* in *January* to ſhif from that which was the *Sunday-Letter* of the foregoing Year, to the nex

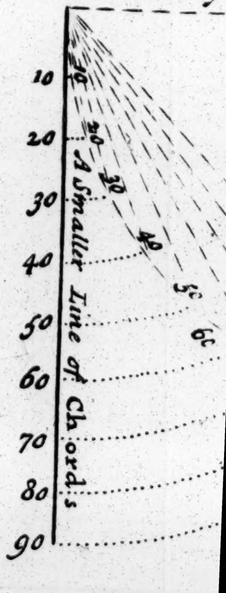
Lette

The Geometrical way of drawing Lines or Scales of Hours, Latitudes, Declination

Fig. 19.


A Scale of Hours
1
2
3
4
5
6
A larger Line or Scale of Hours.
1
2
3
4
5
6
A Line or Scale of Chords or of Declination.
10
20
30
40
50
60
70
80
90

The Geom. way

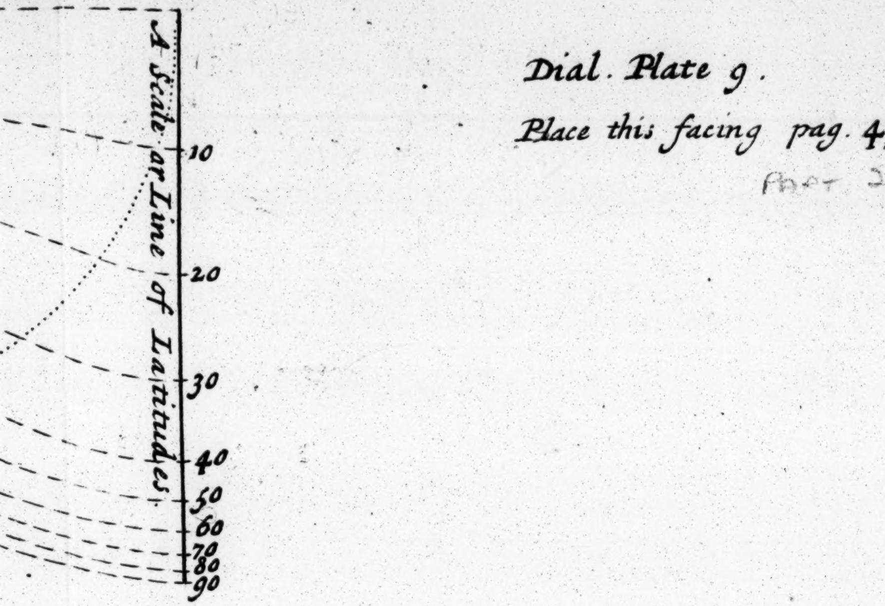


Dial. Plate 9.

Place this facing pag. 47.

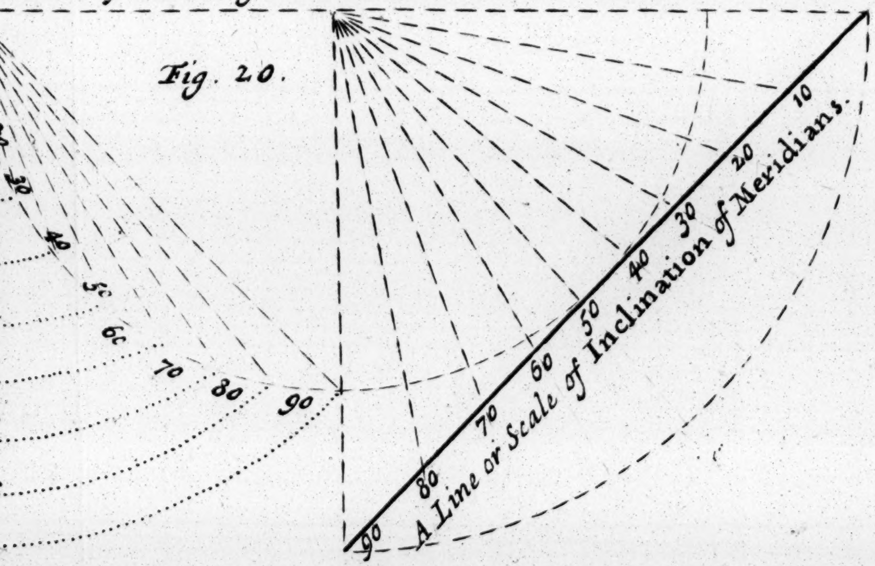
Part 2.

nation or Chords.



Geom. way of drawing a Scale of Inclination of Meridians & Chords.

Fig. 20.



Letter to it in a backward Order ; ſo he other Day, intercalated every Leap-Year after the 23d of *February*, (though it makes no Change as to the Days of the *Month*, to which the Alphabetical Letters reſpectively beong ; which is brought about by the Artifice of repeating the Letter *F* wice, as was afore obſerved : yet it) oes make a Change as to the Days f the *Week*, to which each Alphabeical Letter is to belong for the reaining Part of the Year ; as is evient by the following Table, containng the latter Part of *February* 1712, eing Leap-Year, and the former Part f *March*.

February:			March:		
23	e	*Saturday*	1	d	*Saturday*
24	F	*Sunday*	2	E	*Sunday*
25	f	*Monday*	3	f	*Monday*
26	g	*Tueſday*	4	g	*Tueſday*
27	a	*Wedneſday*	5	a	*Wedneſday*
28	b	*Thurſday*	6	b	*Thurſday*
29	c	*Friday*	7	c	*Friday.*

As the former Table ſhewed, how comes to paſs, that G is the *Sunday-tter* for 1711, and *F* for 1712, at e Beginning of the ſaid Year, even *February* 23*d* ; ſo this latter Table ſhews,

4. *The* intercalated Day *makes a* double Change *in the* Sun-

day-Letter *every Leap-Year.*

ſhews, how it comes to paſs, tha after *February* 23*d*, not *F* as afore, bu *E* is the *Sunday-Letter* for the Reſt o the Year. And conſequently as th former Table will ſerve to ſhew, how by the odd Day in a common Year there is made every common Year *ſingle* Change as to the *Sunday-Letter* ſo the latter Table, compared with the former, will ſhew how by th intercalated Day of a Leap-Year ther is made after *February* 23*d*, in ever Leap-Year another Change of the *Sunday-Letter*, beſides the former mad at the Beginning of the ſaid Leap Year; and conſequently how ther comes a *double* Change of the *Sunda Letter* every Leap-Year.

5. *This Cycle why conſiſts of* twenty-eight *Years.*

Now as the Cycle of the *Sunda Letter* would have conſiſted but o ſeven Years, had there been only ſingle Change of the ſaid Letter; ſo by Reaſon of there being a doubl Change of the ſaid Letter every Lea or fourth Year, it comes to paſs, th the ſaid Cycle conſiſts of four Tim ſeven Years, *i. e.* the *Sunday-Lett* does not proceed in the ſame Cour as it did afore, under twenty-eig Years; and after that Number o

Yea

Years its Courſe or Order is the ſame s it was afore. Which is illuſtrated by the following Table; where it is o be obſerved, that the firſt Year, nd every fourth Year after, of the Cycle is a Leap-Year, and therefore has two *Sunday-Letters* appertaining o it.

A TABLE of the Cycle of the *Sun.*

1 GF	5 BA	9 DC	13 FE	17 AG	21 CB	25 ED
2 E	6 G	10 B	14 D	18 F	22 A	26 C
3 D	7 F	11 A	15 C	19 E	23 G	27 B
4 C	8 E	12 G	16 B	20 D	24 F	28 A

7. *To find the Cycle of the Sun for any given Year of Christ.*

To find what Year of this Cycle any iven Year of our Lord anſwers to, nd conſequently, what is the *Sunday-Letter* for the Year given, work thus: To the Year of our Lord given (‖) dd 9, and divide the Sum by 28. If

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(‖) The Reaſon of adding 9, is, becauſe the *Æra* Chriſt began in the Tenth Year of this Cycle.

any of the Dividend remains, the ſa Remainder ſhews the Year of the C cle ſought; if nothing remains of th Dividend, then it is the laſt or 28 Year of the Cycle. For inſtance, would know, what Year of the Cyc of the Sun, A. D. 1712 anſwers t By the foregoing Rule I find it to a ſwer to the 13th Year of the ſaid C cle; (for 1712 + 9 = 1721, and 172 being divided by 28, there will b left 13;) and by the Table of th Cycle I find the *Sunday-Letters* f the ſaid Year, being a Leap-Year, be *FE*, viz. *F* from the Beginning *January* to *February* 23*d*, and aft that *E* for the Reſt of the Year, a cording to the (*) *Julian* Account.

8. *To find, what* Day of the Week *the firſt Day of any Month falls upon.*

It may not be altogether unuſef to obſerve further, that each of th firſt ſeven Alphabetical Letters alwa (as is afore noted) belonging to th ſame Day of each Month in the Yea hence the two following *Engliſh* Verſ

(*) Having found the *Sunday-Letter* according the *Julian* Account, the *Gregorian Sunday Letter* w be the third in a backward Order from the *Juli* Thus FE being the *Julian Sunday-Letters* for 17 being Leap-Year, CB will be the *Gregorian Sund* *Letters* for the ſame.

ſhew by the firſt Letter of each Word, what Letter belongs to the *firſt* Day of each Month; the Order of the Words anſwering to the Order of the Months thus:

Jan. *Feb.* *March*, *April*, *May*, *June*,
At Dover *Dwells* George Brown *Eſquire*,
July, *Aug.* *Sept.* *Oct.* *Nov.* *Dec.*
Good *Chriſtian Faith*, *And* *Doctor* Fryar.

Wherefore the *Sunday-Letter* being nown, it is eaſy by the Help of the oregoing Verſes to tell, what Day of he *Week* the firſt Day of any Month alls upon; namely, by conſidering he *Order* or *Diſtance* of the Letter elonging to the firſt Day of the given Month from the given *Sunday-Letter*. Ex. *gr.* I would know, what Day of he Week the firſt of *February* 1712 will be, when rhe *Sunday-Letter* will e (at that Part of the ſaid Year) *F*. By the foregoing Verſes I know *D* is he Letter belonging to *February* 1ſt, nd therefore *F* being the *Sunday-Letter*, *D* (as being two in the Alphabetical Order before *F*) muſt denote *Friday*, which is agreeably two Days efore *Sunday*.

In like manner, if it be enquired what Day of the Week *March* 1ſt will fall upon in 1712, when the *Sun day-Letter* will be changed from *F* t *E*. It being known by the foregoin Verſes, that *D* is the Letter that be longs alſo to the firſt of *March*, i follows that, as *D* is the Letter nex before *E*, ſo *March* 1*ſt* muſt fall o (that Day of the Week which is nex before *Sunday*, viz.) *Saturday*.

9. *To find, what Day of the* Week *any* other *Day of the Month (beſides the firſt) falls upon.*

It being thus to be known, wha Day of the Week the *firſt* Day of an Month falls upon; thereby may b eaſily known alſo, what Day of th Week any *other* Day of the ſam Month falls upon; namely, by conſi dering, that the 1ſt, 8th, 15th, 22 and 29th Day of any Month alway fall upon the ſame Day of the Week and then reckoning, how far diſtan the Day propoſed is from any of th aforeſaid Days. For inſtance, I woul know, what Day of the Week *Marc* 18*th* falls upon next Year, *viz.* 171 It being afore known, that the fir Day of *March* will then fall on *Satur day*, it follows, that *March* 15*th* wi be likewiſe on *Saturday*; and there fore *March* 18*th* (as being three Day

afte

after *March* 15*th*) will fall on *Tueſday*, as being three Days after *Saturday*. And therefore, by the *Sunday-Letter* and the foregoing Verſes, may be found, what Day of the *Week* any Day of the *Year* in general will fall upon. And thus we have largely ſhewn the Uſe of the Cycle of the Sun, or of the *Sunday-Letter*.

CHAP. V.

Of the Indiction, *and* Julian Period.

I. *Of the* Indiction.

THE Indiction is a Cycle of fifteen Years, which has no Relation to any Celeſtial Motion, but wa inſtituted wholly on a Political or Civil Account, *viz.* in reſpect to certai Taxes (as is the moſt received Opinion) which were to be paid every fi teen Years. When this Cycle wa firſt inſtituted, is not left upon Record; but it is evident from Hiſtory that it has been in Uſe ever ſince th Time of *Conſtantine* the Great, o from A. D. 312. It was uſed bot by the *Greeks* and *Romans*, but aft (†) a manner ſomewhat differen The *Roman* Indiction is ſtill uſed b the *Pope* in his Bulls, *&c.* And th Year of the *Roman* Indiction anſw

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(†) The *Greek* Indiction begins from the firſt *September*, the *Roman* Indiction from the firſt of J *nuary*. And the former is uſed in the *Acts of Counc* and the *Novels* of the Emperors.

rin

ring to any given Year of Chriſt is found, by (‖) adding 3 to the given Year of Chriſt, and dividing the Sum by 15. The Remainder of the Dividend, if any there be, ſhews the Indiction; if nothing remains, then it is the 15th or laſt Year of the Indiction. The principal Reaſon of taking Notice of this Cycle in this Treatiſe, is becauſe it conduces to the Underſtanding of the *Julian Period*, of which we ſhall ſpeak next.

2. *Of the* Julian Period.

The *Julian Period* is no other than greater Cycle, made up of the three fore-mentioned Cycles of the Moon, Sun, and Indiction, multiplied one into the other, and ſo conſiſting of 7980 Years. For the Cycles of the Moon and Sun, *viz.* 19 and 28, being multiplied together make (*) 532; which being multiplied again by 15, the Cycle of the Indiction, makes 7980,

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(‖) The Reaſon of adding 3, is, becauſe A. D. 1. egan in the fourth Year of the ſaid *Roman* Indiction.

(*) This Number of Years, ariſing from the Cycles the Moon and Sun being multiplied together, is culiarly ſtiled the *Dionyſian* Period, and alſo the *ictorian* Period, from Perſons of the like Names who troduced the Uſe thereof.

the Space of the *Julian Period.* It i called the *Julian Period*, becauſe i was adapted by the Author or Inventor of it *Joſeph Scaliger*, to the *Julia* Year, and its fore-mentioned Cycles It is of excellent Uſe in Chronolog or Diſtinguiſhing of Times; becauſ the ſame Years of the Cycles of th Moon, Sun, and Indiction, which belong to any one Year of this *Julia* *Period*, will never fall together agai till after 7980 Years, and conſequently not as long as the World ſtands according to the Opinion probabl received concerning (†) the Duratio of the World. And as this Perio will probably not expire before th *End* of the World, and thereby conſequently may be diſtinguiſhed th Times of all *Future* Events; ſo it extends backwards (‖) before the *Begin*

(†) Namely, That it ſhall endure but 6000 Year Of which about 4000 Years being expired before o Saviour's Nativity, and ſomewhat above 1700 Yea being expired ſince, there remains but about 3 Years more for the World to laſt, according to t ſaid Opinion.

(‖) Namely, *Julian* Period 4714, anſwering A. D 1. and our Saviour being Born but about t 4000th Year of the World, it thence follows, that t *Julian* Period muſt be conceived to commence begin about 700 Years before the Creation.

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ning of the World, and thereby conſequently may be diſtinguiſhed the Times of all *Paſt* Events from the very Creation. Hence Chronologers do endeavour to adjuſt all other Accounts of Time, and conſequently all Tranſactions and Events recorded in Hiſtory, to the *Julian Period.*

3. *To find, what Year of the* Julian Period *anſwers to any given* Year of Chriſt.

To find, what Year of the *Julian Period* any given Year of Chriſt anſwers to, work thus. To the given Year of Chriſt add 4713, (becauſe ſo many Years of the *Julian Period* were expired before A. D. 1.) and the Sum gives the Year of the *Julian Period* ſought. For inſtance, I would know, what Year of the *Julian Period* A. D. 1712 anſwers to. Now 1712 + 4713 = 6425, the Year ſought of the *Julian Period.*

4. *To find, what* Year of Chriſt *anſwers to any given Year of the* Julian Period.

On the contrary, having the Year of the *Julian Period* given to find what A. D. anſwers thereto, work thus. From the Year of the *Julian Period* given, ſubſtract 4713, (for the Reaſon above-mentioned,) and the Reſidue will be the A. D. ſought. For inſtance, I would know, what A. D. anſwers to the *Julian Period* 6425.

Wherefore 6425−4713 = 1712, the A. D. ſought.

5. *To find, what Year* before *Chriſt anſwers to any given Year of the* Julian Period, *leſs than* 4714.

If the Year of the *Julian Period* given be 4713, or leſs than it, then Subſtract the ſame from 4714, (which is the Year of the *Julian Period*, that anſwers to A. D. 1.) and the Reſidue will ſhew, how long afore (the Beginning of the common Computation from the Nativity of) Chriſt the given Year of the *Julian Period* was. For inſtance, the City of *Rome* is ſaid to have been built, *J. P.* 3960. I would know therefore, how long it was built before Chriſt. Now 4714−3960=754. Wherefore *Rome* was built 754 Years before (the Beginning of the common *Æra* of) Chriſt.

6. *To find the* Cycle of the Sun, Moon, *or* Indiction, *anſwering to any Year of the* Julian Period.

To know, what Year of the Cycle of the Sun, Moon, or Indiction, anſwers to any Year given of the *Julian Period*; divide the given Year reſpectively by 28, or 19, or 15. The Remainder of the firſt Diviſion will ſhew the Year of the Sun's Cycle; the Remainder of the ſecond Diviſion will ſhew the Year of the Moon's Cycle; and of the third Diviſion, the Year of the Indiction. If nothing remains in each Diviſion, then it is the laſt Year of each Cycle reſpectively.

7. *And the contrary.* On the contrary to know, what Year of the *Julian Period* anſwers to any given Year of the Cycle of the Sun, or Moon, or Indiction; multiply the Cycle of the Sun into 4845, the Cycle of the Moon into 4200, the Cycle of the Indiction into 6916. The Sum of the Products being divided by 7980, the Remainder will ſhew the Year of the *Julian Period* ſought.

8. Cycles *and* Periods, *why ſo called.* And thus we have gone through the ſeveral Characters of Time, whoſe Computation after a certain Number of Years begins anew; whence each of them is ſtiled, either a *Cycle*, as the Cycle of the Sun, Moon, and Indiction; or a *Period*, as the *Julian Period*.

CHAP. VI.

Of Epoch's *or* Æra's; *and eſpecially of the* Æra *or Year of* Chriſt, *the* Æra *of the* Olympiads, *and the* Æra *of the* Building of Rome.

1. *Of* Epoch's *or* Æra's. WE are now to ſpeak of thoſe Characters of Time, whoſe Computation does not begin anew after a certain Number of Years, but is ſtill continued on further and further from their reſpective Heads or ſingle Beginnings. And theſe are diſtinguiſhed from the circular Characters of Time already deſcribed, by the Name of (*) *Epoch*'s or *Æra*'s.

2. *Of the* Æra *of* Chriſt, *uſed by Us and other Chriſtians.* There are ſeveral *Epoch*'s or *Æra*'s made uſe of, both formerly and at

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(*) Theſe Words are frequently uſed promiſcuouſly. Some take an *Æra* to denote properly any *continued Computation*, and an *Epoch* to ſignify properly the *Beginning* of the ſaid Computation; the *Greek* Word ἐποχὴ denoting (as it were) a Pauſe or Stop in Time, from whence Time is computed. As to the Etymology of *Æra*, there is no good Account of it.

preſent, in the ſeveral Parts of the World. That of principal Concern to us Chriſtians is the *Æra* of *Chriſt*, or the common Way of computing Time from the Nativity of Chriſt; according to which this preſent Year is reckoned the 1711th from the *Nativity* of Chriſt, or rather from the *firſt of January* next following the Nativity of Chriſt according to the common Computation. The *Æra* or Way of Reckoning from *Chriſt*, was firſt introduced by one *Dionyſius*, ſurnamed (†) *Exiguus*, ſomewhat more than 500 Years after Chriſt: Since which Time Chriſtians have reckoned their Years, either from the Birth or Incarnation of our Bleſſed Saviour; whereas before they were wont to reckon ſome other Ways. According to *Dionyſius*, the Author of the *Æra* computed from Chriſt, our Lord was conceived on the 8th of the Calends of *April* (now called *Lady-Day*) in the firſt Year of this *Æra*; and was Born about the Winter-Solſtice next following, at the End of the 46th Year of

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(†) He was ſo ſurnamed from his little Stature.

the *Julian Epoch*, or of the Reformation of the Year by *Julius Cæſar*. And this Account was at firſt univerſally received among Chriſtians; but is now a-days uſed only in *England* and *Ireland*, where not only the Eccleſiaſtical, but alſo the Civil Year, is ſtill reckoned from the *Feaſt of the Annunciation*, or *Lady-Day*, as it was at firſt by *Dionyſius* himſelf: Whereas in other Parts of *Chriſtendom*, and even in *England* as to common Affairs which require not a Legal (Eccleſiaſtical or Civil) Date, the Year of Chriſt is reckoned now a-days not from the *Annunciation* or *Lady-Day*, but from the *Nativity* of Chriſt; which is now generally thought to have fell out, at the Winter-Solſtice (not next *after*, but) next *afore* that Annunciation, which *Dionyſius* made the Head of his *Æra*; and conſequently to have fell out a few Days before the End of the 45th Year of the *Julian Epoch*; and ſo to have been a Year ſooner than it is computed to have been according to the *Æra* of *Dionyſius*, or the Account ſtill uſed by the *Church* and *State* of *England* and *Ireland*.

3. *Of the* Æra *of the* World, *or* Creation.

There is alſo another *Æra* frequently made Uſe of by Chriſtian Writers, namely, the *Æra* of the *Creation*, which is generally agreed to have been about 4000 Years before Chriſt. And becauſe to ſay ſuch or ſuch a Thing fell out in ſuch a Year of the *World*, does not give us ſo clear an Idea of the Diſtance of the ſaid Occurrence from us, as it does to ſay, that it happened in ſuch or ſuch a Year *before Chriſt*; therefore, the Computation from the Creation of the World begins to be laid aſide, even in Matters relating to the Sacred Hiſtory of the Old Teſtament, and inſtead thereof the Occurrences of the Old Teſtament are now a-days computed by their Diſtance *before* Chriſt. Thus inſtead of ſaying, that the *Univerſal Deluge* happened *A. M.* or in the Year of the *World*, 1656, it is thought more Inſtructive to ſay, that it happened 2294 Years *before* Chriſt, this laſt Manner of Computation giving us a clearer Notion of the Time when the Flood happened in reſpect of its Diſtance from us. For we being wont to reckon our Time *from Chriſt*, and ſo reckoning this preſent Year to be the 1711th from Chriſt; when we are told, that the Flood was 2294 *before* Chriſt, we can from thence eaſily gather, that the Flood was about 4000 Years ago in reſpect of this preſent Time. And on the ſame Conſiderations, it appears to be much the beſt or eaſieſt and cleareſt Way for us, to compute likewiſe all Occurrences, mentioned in any other as well as the Sacred Hiſtory, by their Diſtance either *before* or *after* Chriſt; and ſo to make the *Nativity of Chriſt* the Univerſal *Head* or *Epoch* of all Chronology, counting therefrom all Occurrences either *Backward* or *Forward*.

4. *Of the* Æra *of the* Olympiads.

The moſt Antient and Renowned *Epoch* uſed by the Heathens is that of the *Olympiads* or *Olympick Games*, which were inſtituted by one *Iphitus*, in the Fields of *Olympia*, a City or Town of the Region *Elis* in the *Peloponneſe*; and which laſted five Days, the laſt whereof fell on the Full Moon, which was next after the Summer Solſtice. Theſe Games were celebrated every four Years, *that is*, there were three Years between the Years wherein the next preceding and the next following *Olympiad* was celebrated.

Hence by a compleat *Olympiad*, is denoted the Space of four Years; the Year wherein the *Olympiad* was celebrated, being ſtiled the firſt Year of the ſaid *Olympiad*, and ſo on. The Celebration of the firſt *Olympiad* is referred to the 3938th Year of the *Julian Period*; and conſequently to the 777th Year *before Chriſt*, viz. to the Calends of *July*, in the Summer of the ſaid Years. Wherefore,

5. *To find the Year of the* Julian Period *anſwering to any Year given of the* Olympiads.

Any Year of the *Olympiads* being given, to find the correſpondent Year of the *Julian Period*, work thus: Multiply the compleat *Olympiads* by 4, and to the Product add the Year (if it be given) of the *Olympiad* running, and alſo 3937, the Sum is the Year of the *Julian Period* ſought. For Inſtance, *Rome* is ſaid to be built, according to *Varro*'s Account, in the fourth Year of the ſixth *Olympiad*. Wherefore I multiply 5 (the Number of the compleat *Olympiads*) by 4, which makes 20, and therefore I add 4 more, (the Year given of the *Olympiad* running, or 6th *Olympiad*.) and alſo 3937. All which together amounts to 3961, the Year ſought of the *Julian Period*.

6. *And thereby to find the correſpondent Year* of Chriſt.

Having found the Year of the *Julian Period* anſwering to any given Year of the *Olympiads*, thereby may alſo be found the correſpondent Year (reſpectively) before or after Chriſt. Namely, if the Year found of the *Julian Period* be leſs than 4713, then ſubſtract the ſame from 4713, and the Remainder will ſhew the correſpondent Year *before* Chriſt: but if the Year found of the *Julian Period* be greater than 4713, then ſubſtract 4713 from it, and the Remainder will ſhew the correſpondent Year *after* Chriſt. Thus, it being found, that *Rome* was built in *Julian Period* 3961, I ſubſtract 3961 from 4713, and there remains 752, the correſpondent Year *before* Chriſt, wherein *Rome* was built.

7. *Another Way to find the* Year of Chriſt *anſwering to any* Olympick Year.

But if there be no Occaſion to find the correſpondent Year of the *Julian Period*, the Year before or after Chriſt, reſpectively anſwering to any given Year of the *Olympiads* may be found thus. Multiply (as afore) the compleat *Olympiads* by 4, and to the Product add the Year given (if any be ſpecifyed) of the *Olympiad* running. This Sum, if it be leſs than 776, ſubſtract

ſtract it from 776, and the Remainder will ſhew the correſpondent Year *before* Chriſt: but if the Sum be greater than 776, then ſubſtract 776 from it, and the Remainder will ſhew the correſpondent Year *after* Chriſt. Thus I would know what Year of Chriſt anſwers to the fourth Year of the ſixth *Olympiad*, wherein *Rome* was built according to *Varro*. Wherefore, (as afore) 5 × 4 = 20, and 20 + 4 = 24. Which Sum being leſs than 776, I ſubſtract it from 776, and there will remain 752, the correſpondent Year *before* Chriſt, as was found before by the other Method.

8. *To find, what* Olympick *Year anſwers to any given Year of the* Julian Period.

Any Year of the *Julian Period* being given, to find what *Olympick* Year anſwers thereto, work thus: From the Year given ſubſtract 3937, and divide the Remainder by 4, the Quotient will ſhew the compleat *Olympiads*, and the Fraction or Remainder of the Dividend will ſhew the Year of the *Olympiad* running. If there be no ſuch Remainder, then it is the laſt or fourth Year of the *Olympiad* running. *Ex. gr.* I would know, what *Olympick* Year anſwers to *J. P.* 3961. From 3961, I ſubſtract 3937, and there remains 24; which divided by 4, gives 6 in the Quotient, and leaves no Fraction of the Dividend. Wherefore the *Olympick* Year ſought, is the fourth Year of the ſixth *Olympiad*.

9. *Of the* Æra *of* U. C. *or the* Building of Rome.

As the Account by the *Olympiads* was, the principal *Æra* among the *Greeks*; ſo the principal *Æra* among the *Romans* was, that of the (‖) *U. C.* or *Building of Rome*; which, according to *Varro* began *Julian Period* 3961, but according to the *Faſti Capitolini* in the following Year, *viz. Julian Period* 3962. Wherefore

10. *To find the Year of the* Julian Period *anſwering to any given Year of* U. C.

Any Year of *U. C.* being given, add thereto 3960, and you'll have the correſpondent Year of the *Julian Period*, according to *Varro*'s Account; or add 3961, and you'll have the correſpondent Year of the *Julian Period*, according to the *Capitoline* Account.

On the contrary, from the given Year of *Julian Period*, ſubſtract 3960, and the Reſidue will give the Year of *U. C.* according to *Varro*; or ſub-

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(‖) U. C. are the Initial Letters of *Urbs Condita*, and ſo are put to denote in ſhort the *Building of the City*, viz. *Rome*.

ſtract 3961, and the Reſidue will be the Year of *U. C.* according to the *Capitoline* Account.

11. *To find the Year* before *or* after Chriſt *anſwering to any given Year of* U. C.

Foraſmuch as *Rome* is computed to have been built 752 Years before Chriſt; therefore from 752 ſubſtract any given Year of *U. C.* leſs than the ſame, and the Reſidue will ſhew the correſpondent Year *before* Chriſt: Or if the Year given of *U. C.* be greater than 752, then ſubſtract 752 from it, and the Reſidue will ſhew the correſpondent Year *after* Chriſt. Thus the Regal State of *Rome* is computed to have ended in *U. C.* 245, to which anſwers the Year 507 *before* Chriſt: for 752—245 = 507. And the Removal of the Imperial Seat from *Rome* to *Conſtantinople*, by *Conſtantine* the Great is computed to have happened *U. C.* 1084, and ſo 332 Years *after* Chriſt: for 1084—752 = 332.

12. *Of other* Epoch's *or* Æra's.

As for other *Epoch's* or *Æra's*, they being of leſs Note and Uſe to us, it will be ſufficient to ſhew in ſhort, how long before or after Chriſt each of them began.

	Before Chriſt.
The *Deſtruction of Troy*, is computed to fall in with (*) *Julian Period*, 3531, and ſo the *Æra* taken from thence to begin	1183.
The *Æra* of *Nabonaſſar* King of *Babylon*, from the Beginning of whoſe Reign the *Chaldeans* and *Egyptians* reckoned their Years, began *February* 26, *J. P.* 3967, and conſequently	747.
The *Æra* (†) of the Death of *Alexander* the Great, began *November* 12, *J. P.* 4390, and ſo	324.

(*) Herein is followed the Opinion of *Dionyſius Halicarnaſſeus*, and *Diodorus Siculus*.

(†) Some diſtinguiſh between the *Alexandrean Æra* and the *Philippean*, making the *Philippean* (ſo calle from *Philip Aridæus*, Brother to *Alexander* the Grea to begin from the Death of *Alexander*, or more exac ly from the 12th of *November* following the Death o *Alexander*, and ſo *Julian Period*, 4390; and the *A lexandrean* to begin not till twelve Years after *Alex ander*'s Death, *viz. October* 1*ſt*, *Julian Period*, 440 This latter *Æra* is eſteemed by ſome learned Men t be the ſame with the *Æra Seleucidarum*, otherwiſ called *Æra Contractuum*, and the *Years of the Greek* in the Books of the *Maccabees*.

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	Before Chriſt
The *Æra* of the City *Antioch*, uſed by *Euſebius*, *Evagrius*, *Cedrenus*, &c. began from the Autumn of *J. P.* 4665, and ſo	49.
The *Æra* of the *Julian Reformation* of the Calendar, began *January* 1, *J. P.* 4669, and ſo	45.
The *Æra Actiaca*, ſo denominated from the Victory obtained by *Auguſtus* over *Anthony* at *Actium*, began *Auguſt* 29, *J. P.* 4684, and ſo	30.
	After Chriſt.
The *Diocleſian Æra*, or *Æra* of the (‖) Martyrs, otherwiſe called the *Æra* of the *Abiſſinians*, began *Auguſt* 29, A. D.	284.

(‖) So called from the Multitude of Chriſtians that ſuffered *Martyrdom* in the *Diocleſian* Perſecution.

	After Chriſt.
The *Æra* of the *Hegira*, or Flight of *Mahomet* from *Mecca* to *Medina*, uſed by the *Turks* and *Arabs*, began *July* 16. A. D.	622.
The *Æra* of *Yezdegird*, or the *Perſian Æra*, began *July* 16, A. D.	632.

From this Table of the Beginnings of the fore-mentioned *Æra's*, it is eaſy to find out the Year before or after Chriſt, which anſwers to any Year given of any of the ſaid *Æra's*, which are computed by *Julian* Years; as are the *Æra's* o the Deſtruction of *Troy*, of the *Julian* Reformation, of *Diocleſian*, &c But it is more difficult to do ſ in reſpect of the *Æra* of *Nabonaſſar*, of *Alexander's* Death, an of the *Hegira*, becauſe they ar computed by Years different from the *Julian* Years. It will be ſufficient to our preſent Deſign to obſerve here, that 1461 *Nabonaſſa*

Years, make only 1460 *Julian* Years; and the ſame is to be underſtood of the *Alexandrean* Years, as being of the ſame Kind with the *Nabonaſſars.*

CHAP.

CHAP. VII.

Of the Method to find Eaſter-Day, *according to the* Nicene *Rule, (as ſtill followed by our Church,) by the Help of the Golden Numbers affixed to the Calendar. To which is adjoined the* Roman *Method of* Dating, *or denoting the Days of the Month.*

1. *The* Nicene *Rule for finding* Eaſter-Day.

THE Rule preſcribed by the Fathers of the *Nicene Council* for the finding of *Eaſter*, and which is ſtill followed by the Church of *England*, is thus expreſſed in our Common-Prayer-Book: *Eaſter-Day is always the firſt Sunday after the firſt Full Moon, which happens next after the One and Twentieth Day of March. And if the Full Moon happens upon a Sunday, Eaſter-Day is the Sunday after.*

2. *To find* Eaſter-

According to this Rule, *Eaſter-Day* may eaſily be found by the Help of the Golden Numbers (*) duly affixed to the Calendar, and by retaining in Memory, and applying to Practice, what has been ſaid of the Golden Numbers, and Dominical Letter, *Chap.* 3d and 4th.

Day according to the ſaid Rule, by the Help of the Golden Numbers.

For Inſtance, I would know, what Day *Eaſter-Day* will fall upon the next Year, *viz.* 1712. In order hereto, firſt I enquire what is the *Golden Number* for the given Year, and I find it to be three, according to the Rule given, *Chap. III. Sect. 6.* Then I enquire what is the Dominical or *Sunday* Letter for the given Year, and (according to the Rules given, *Chap. IV. Sect.* 5. *6.*) I find that there will be two *Sunday* Letters next Year, it being Leap-Year. Of which two Letters, *viz. FE*, the latter *E* will be the *Sunday* Letter after *February* 23*d*, and ſo that whereby I am to be guided in finding out *Eaſter-Day*.

(*) In our old large Common Prayer-Books, great Care was taken duly to affix the Golden Numbers to their proper Days; and to that End black Lines were drawn between every Day of the Calendar. But of late Years no ſuch Care is taken, inſomuch that it is not to be known with any Certainty what Days the Golden Numbers do anſwer to in the Church-Calendars, of late printed without ſuch black Lines.

Now becauſe the Full Moon, on which *Eaſter* depends, is (according to the *Nicene* Rule) that which happens next after the 21*ſt of March*; and becauſe the ſaid Full Moon is (agreeably to *Exod.* 12. 6.) to be eſteemed the 14*th Day* after its New Moon incluſively, (*i. e.* the Day of the ſaid New Moon, being reckoned the firſt of the 14th, and the Day of the Full Moon the laſt,) hence the ſaid *Eaſter* New Moon can never fall *before the 9th of March*, nor *after the 5th of April*. Wherefore I look for the Golden Number 3 between *March 9th*, and *April 5th*, and find it placed to *March* 31*ſt*, which therefore was the Day on which the *Eaſter* New Moon fell at the Time of the *Nicene* Council, in the 3d Year of the Moon's Cycle; and conſequently is eſteemed ſo ſtill by us. Wherefore the *Eaſter* Full Moon (being fourteen Days after incluſively) will be *April* 13*th*; which being ſhewn by the Letter E affix'd to it to be a *Sunday*, therefore, by the *Nicene* Rule, *Eaſter*-Day muſt be the *Sunday* after, *viz. April* 20*th*. And in like manner may

Eaſter-Day be found for any other given Year, by the Help of the Calendar adjoined to the End of this Chapter; and conſequently Tables may be made, ſhewing the Day, whereon *Eaſter* will fall, for any Term of Years.

3. *Of the* Roman *Way of* Dating, *or denoting the Days of the Year.*

It remains now only to obſerve, that in Order to render the following Calendar more uſeful, therein is ſet down the *Roman* Manner of *Dating*, or denoting the ſeveral Days of the Year. Where it is to be noted, that the *Roman* Numbers between the Words *Kalends*, *Nones*, *Ides* and *Calends* of the ſucceeding Month, do reſpectively refer always to the following Word. Thus the Number IV over-againſt *January 2d*, refers to the following *Nones*, and denotes as much as the 4th Day of, or before the *Nones* of *January*. So XI ſet to *January 22d*, denotes the 11th of, or before the *Calends* of *February*.

Wherefore any *Roman* Date given, may be turned into *our* Date, by finding in the Calendar the Date given, (ſuppoſe 3 *Id. Februar.*) and ſeeing what Date of ours anſwers thereto, (*viz. February* 11*th.*) And on the other Hand any Date of ours being given, *v. g. January* 31*ſt*; it may be turned into the *Roman* Date, by finding the *Roman* Date affixed thereto, *viz. Prid. Kal. Febr.*

January.

January.

Golden Number.	Day of Month.	Letters.	Weekly	Roman Date.
3	1	A		Calendæ
	2	B		IV
11	3	C		III
	4	D		Prid.
9	5	E		Nonæ
8	6	F		VIII
	7	G		VII
6	8	A		VI
5	9	B		V
	10	C		IV
3	11	D		III
2	12	E		Prid.
	13	F		Idus.
0	14	G		XIX
	15	A		XVIII
8	16	B		XVII
7	17	C		XVI
	18	D		XV
5	19	E		XIV
4	20	F		XIII
	21	G		XII
2	22	A		XI
1	23	B		X
	24	C		IX
9	25	D		VIII
	26	E		VII
7	27	F		VI
6	28	G		V
	29	A		IV
4	30	B		III
3	31	C		Prid. Kal.

February.

Golden Number.	Day of Month.	Letters.	Weekly	Roman Date.
	1	D		Calendæ
11	2	E		IV
19	3	F		III
8	4	G		Prid.
	5	A		Nonæ
16	6	B		VIII
5	7	C		VII
	8	D		VI
13	9	E		V
2	10	F		IV
	11	G		III
10	12	A		Prid.
	13	B		Idus.
18	14	C		XVI
7	15	D		XV
	16	E		XIV
15	17	F		XIII
4	18	G		XII
	19	A		XI
12	20	B		X
1	21	C		IX
	22	D		VIII
9	23	E		VII
	24	F		VI
17	25	G		V
6	26	A		IV
	27	B		III
14	28	C		Prid. Kal.

March.

Golden Number.	Day of Month.	Weekly Letters.	Roman Date.
3	1	D	Calendæ
	2	E	VI
11	3	F	V
	4	G	IV
19	5	A	III
8	6	B	Prid.
	7	C	Nonæ
16	8	D	VIII
5	9	E	VII
	10	F	VI
13	11	G	V
2	12	A	IV
	13	B	III
10	14	C	Prid.
	15	D	Idus.
18	16	E	XVII
	17	F	XVI
	18	G	XV
15	19	A	XIV
4	20	B	XIII
	21	C	XII
12	22	D	XI
1	23	E	X
	24	F	IX
9	25	G	VIII
	26	A	VII
17	27	B	VI
6	28	C	V
	29	D	IV
14	30	E	III
3	31	F	Prid. Kal.

April.

Golden Number.	Day of Month.	Weekly Letters.	Roman Date.
	1	G	Calendæ
11	2	A	IV
	3	B	III
19	4	C	Prid.
8	5	D	Nonæ
16	6	E	VIII
5	7	F	VII
	8	G	VI
13	9	A	V
2	10	B	IV
	11	C	III
10	12	D	Prid.
	13	E	Idus.
18	14	F	XVIII
7	15	G	XVII
	16	A	XVI
15	17	B	XV
4	18	C	XIV
	19	D	XIII
12	20	E	XII
1	21	F	XI
	22	G	X
9	23	A	IX
	24	B	VIII
17	25	C	VII
6	26	D	VI
	27	E	V
14	28	F	IV
3	29	G	III
	30	A	Prid. Ka

May.

Golden Number.	Day of Month.	Weekly Letters.	Roman Date.
3	1	B	Calendæ
	2	C	VI
19	3	D	V
8	4	E	IV
	5	F	III
16	6	G	Prid.
5	7	A	Nonæ
	8	B	VIII
13	9	C	VII
2	10	D	VI
	11	E	V
10	12	F	IV
	13	G	III
18	14	A	Prid.
7	15	B	Idus.
	16	C	XVII
15	17	D	XVI
4	18	E	XV
	19	F	XIV
12	20	G	XIII
1	21	A	XII
	22	B	XI
9	23	C	X
	24	D	IX
17	25	E	VIII
6	26	F	VII
	27	G	VI
14	28	A	V
3	29	B	IV
	30	C	III
11	31	D	Prid. Kal.

June.

Golden Number.	Day of Month.	Weekly Letters.	Roman Date.
	1	E	Calendæ
19	2	F	IV
8	3	G	III
16	4	A	Prid.
5	5	B	Nonæ
	6	C	VIII
13	7	D	VII
2	8	E	VI
	9	F	V
10	10	G	IV
	11	A	III
18	12	B	Prid.
7	13	C	Idus.
	14	D	XVIII
15	15	E	XVII
4	16	F	XVI
	17	G	XV
12	18	A	XIV
1	19	B	XIII
	20	C	XII
9	21	D	XI
	22	E	X
17	23	F	IX
6	24	G	VIII
	25	A	VII
14	26	B	VI
3	27	C	V
	28	D	IV
11	29	E	III
	30	F	Prid. Kal.

July.

Golden Number.	Day of Month.	Weekly Letters	Roman Date.
19	1	G	Calendæ
8	2	A	VI
	3	B	V
16	4	C	IV
5	5	D	III
	6	E	Prid.
13	7	F	Nonæ
2	8	G	VIII
	9	A	VII
10	10	B	VI
	11	C	V
18	12	D	IV
7	13	E	III
	14	F	Prid.
15	15	G	Idus.
4	16	A	XVII
	17	B	XVI
12	18	C	XV
1	19	D	XIV
	20	E	XIII
9	21	F	XII
	22	G	XI
17	23	A	X
6	24	B	IX
	25	C	VIII
14	26	D	VII
3	27	E	VI
	28	F	V
11	29	G	IV
	30	A	III
19	31	B	Prid. Kal.

Auguſt.

Golden Number.	Day of Month.	Weekly Letters.	Roman Date.
8	1	C	Calendæ
16	2	D	IV
5	3	E	III
	4	F	Prid.
13	5	G	Nonæ
2	6	A	VIII
	7	B	VII
10	8	C	VI
	9	D	V
18	10	E	IV
7	11	F	III
	12	G	Prid.
15	13	A	Idus.
4	14	B	XIX
	15	C	XVIII
12	16	D	XVII
1	17	E	XVI
	18	F	XV
9	19	G	XIV
	20	A	XIII
17	21	B	XII
6	22	C	XI
	23	D	X
14	24	E	IX
3	25	F	VIII
	26	G	VII
11	27	A	VI
	28	B	V
19	29	C	IV
8	30	D	III
	31	E	Prid. Ka

September.

Golden Number.	Day of Month.	Weekly Letters.	Roman Date.
16	1	F	Calendæ
5	2	G	IV
	3	A	III
13	4	B	Prid.
2	5	C	Nonæ
	6	D	VIII
10	7	E	VII
	8	F	VI
18	9	G	V
7	10	A	IV
	11	B	III
15	12	C	Prid.
4	13	D	Idus.
	14	E	XVIII
12	15	F	XVII
1	16	G	XVI
	17	A	XV
9	18	B	XIV
	19	C	XIII
17	20	D	XII
6	21	E	XI
	22	F	X
14	23	G	IX
3	24	A	VIII
	25	B	VII
11	26	C	VI
19	27	D	V
	28	E	IV
8	29	F	III
	30	G	Prid. Kal.

October.

Golden Number.	Day Month.	Weekly Letters.	Roman Date.
16	1	A	Calendæ
5	2	B	VI
13	3	C	V
2	4	D	IV
	5	E	III
10	6	F	Prid.
	7	G	Nonæ
18	8	A	VIII
7	9	B	VII
	10	C	VI
15	11	D	V
4	12	E	IV
	13	F	III
12	14	G	Prid.
1	15	A	Idus.
	16	B	XVII
9	17	C	XVI
	18	D	XV
17	19	E	XIV
6	20	F	XIII
	21	G	XII
14	22	A	XI
3	23	B	X
	24	C	IX
11	25	D	VIII
	26	E	VII
19	27	F	VI
8	28	G	V
	29	A	IV
16	30	B	III
5	31	C	Prid. Kal.

November.			
Golden Number.	Day of Month.	Weekly Letters	Roman Date.
	1	D	Calendæ
13	2	E	IV
2	3	F	III
	4	G	Prid.
10	5	A	Nonæ
	6	B	VIII
18	7	C	VII
7	8	D	VI
	9	E	V
15	10	F	IV
4	11	G	III
	12	A	Prid.
12	13	B	Idus.
1	14	C	XVIII
	15	D	XVII
9	16	E	XVI
	17	F	XV
17	18	G	XIV
6	19	A	XIII
	20	B	XII
14	21	C	XI
3	22	D	X
	23	E	IX
11	24	F	VIII
19	25	G	VII
	26	A	VI
8	27	B	V
	28	C	IV
16	29	D	III
5	30	E	Prid. Kal.

December.			
Golden Number.	Day of Month.	Weekly Letters.	Roman Date.
13	1	F	Calendæ
2	2	G	IV
	3	A	III
10	4	B	Prid.
	5	C	Nonæ
18	6	D	VIII
7	7	E	VII
	8	F	VI
15	9	G	V
4	10	A	IV
	11	B	III
12	12	C	Prid.
1	13	D	Idus.
	14	E	XIX.
9	15	F	XVIII
	16	G	XVII
17	17	A	XVI
6	18	B	XV
	19	C	XIV
14	20	D	XIII
3	21	E	XII
	22	F	XI
11	23	G	X
	24	A	IX
19	25	B	VIII
8	26	C	VII
	27	D	VI
16	28	E	V
5	29	F	IV
	30	G	III
13	31	A	Prid. Kal

Having ſhewn how to find *Eaſter-Day* according to the *Julian* or Old Account, uſed by Us in *Great Britain* and *Ireland*, it may not be improper to adjoin here, by way of Annotation, the Method of finding *Eaſter-Day* according to the *Gregorian* or New Account, uſed in all Countries where the *Popiſh* Religion is eſtabliſhed. Now this is done by Help of the Table here ſubjoined, wherein in the firſt Column are contained the *Gregorian* Epacts, that are now and will be in Uſe till 1800 excluſively; and in the ſecond Column are ſet down the Days whereon falls the *Eaſter* Full Moon; and in the third Column is ſet down the Weekly Letter anſwering to the ſaid Days of the *Eaſter* Full Moon.

Epacts.	Full Moons.	Weekly Letters.	Epacts.	Full Moons.	Weekly Letters.
X	13 *April*	E	IX	4 *April*	C
XI	2 *April*	A	XX	24 *March*	F
XXII	22 *March*	D	I	12 *April*	D
III	10 *April*	B	XII	1 *April*	G
XIV	30 *March*	E	XXIII	21 *March*	C
XXV	18 *April*	C	IV	9 *April*	A
VI	7 *April*	F	XV	29 *March*	D
XVII	27 *March*	B	XXVI	17 *April*	B
XXVIII	15 *April*	G	VII	6 *April*	E
			XVIII	26 *March*	A

The Uſe of the foregoing Table is this. Having found (as is above ſhewn in the Note on *Chap.* 3. *Sect.* 8. and *Chap.* 4. *Sect.* 7.) the *Gregorian* Epact and *Sunday-Letter*, over-againſt the ſaid Epact in the foregoing Table is placed the Day whereon falls the *Eaſter* Full Moon, and thereto is affixed its reſpective Letter. From which therefore you are to reckon in an Alphabetical Order, till you come to the *Sunday-Letter* for that Year, and the Day of the Month anſwering to the ſaid *Sunday-Letter* is the *Gregorian Eaſter-Day.* Only if it happens, that the Full Moon falls on a *Sunday*, then (according to the *Nicene* Rule) the *Sunday* next following is the *Gregorian Eaſter-Day.* For Inſtance: It has been already (*viz.* in Notes on *Chap.* 3. *Sect.* 8. and *Chap.* 4. *Sect.* 7.) found, that the *Gregorian* Epact for A. D. 1712 is 22, and that the *Gregorian Sunday-Letters* are *CB*, viz. *C* to the intercalated Day in *February*, and after that B; which laſt Letter *B* is therefore the *Sunday-Letter*, whereby you are to be guided in finding *Eaſter-Day.* Now by the foregoing Table yon learn, that when the *Gregorian* Epact is 22, the *Eaſter* Full Moon according to the *Gregorian* Account will fall on *March* 22d, N. S. (*i. e. March* 11th, O. S.) to which anſwers the Letter *D*, as may be ſeen in the foregoing Calendar. Wherefore reckoning in an Alphabetical Order from *D* to *B*, which laſt is the *Gregorian Sunday-Letter*, you'll find, that according to the *Gregorian* Computation, *Eaſter-Sunday* will be *March* 27th, N. S. which anſwers to our *March* 16th; and conſequently, the *Gregorian Eaſter-Day* will fall A. D. 1712, five Weeks before our *Eaſter-Day*, this falling on *April* 20th, as has been afore ſhewn.

It only remains to obſerve in ſhort, that it having been ſhewn, how to find both the *Julian* and *Gregorian Eaſter-Day*, thereby may be known the Time of all the *Movable Feſtivals* in any given Year; foraſmuch as they all depend on *Eaſter-Day.* And conſequently hereby, and by what has been ſaid of finding the Days whereon fall the New and Full

Moons, may be drawn up an Almanack ſufficient for common Uſe. And thus I have laid together ſo much of Chronology, as ſeems requiſite to be known by Young Gentlemen, at leaſt at their firſt Inſtitution in the ſaid Art or Science.

FINIS.

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